SUPSHIP Portsmouth Code 220

Maintenance Evaluation and Planning Division

6 Aug 2002 CNSL TDO Brief: Focus CCBMM Function

FUNCTIONS of CODE 220

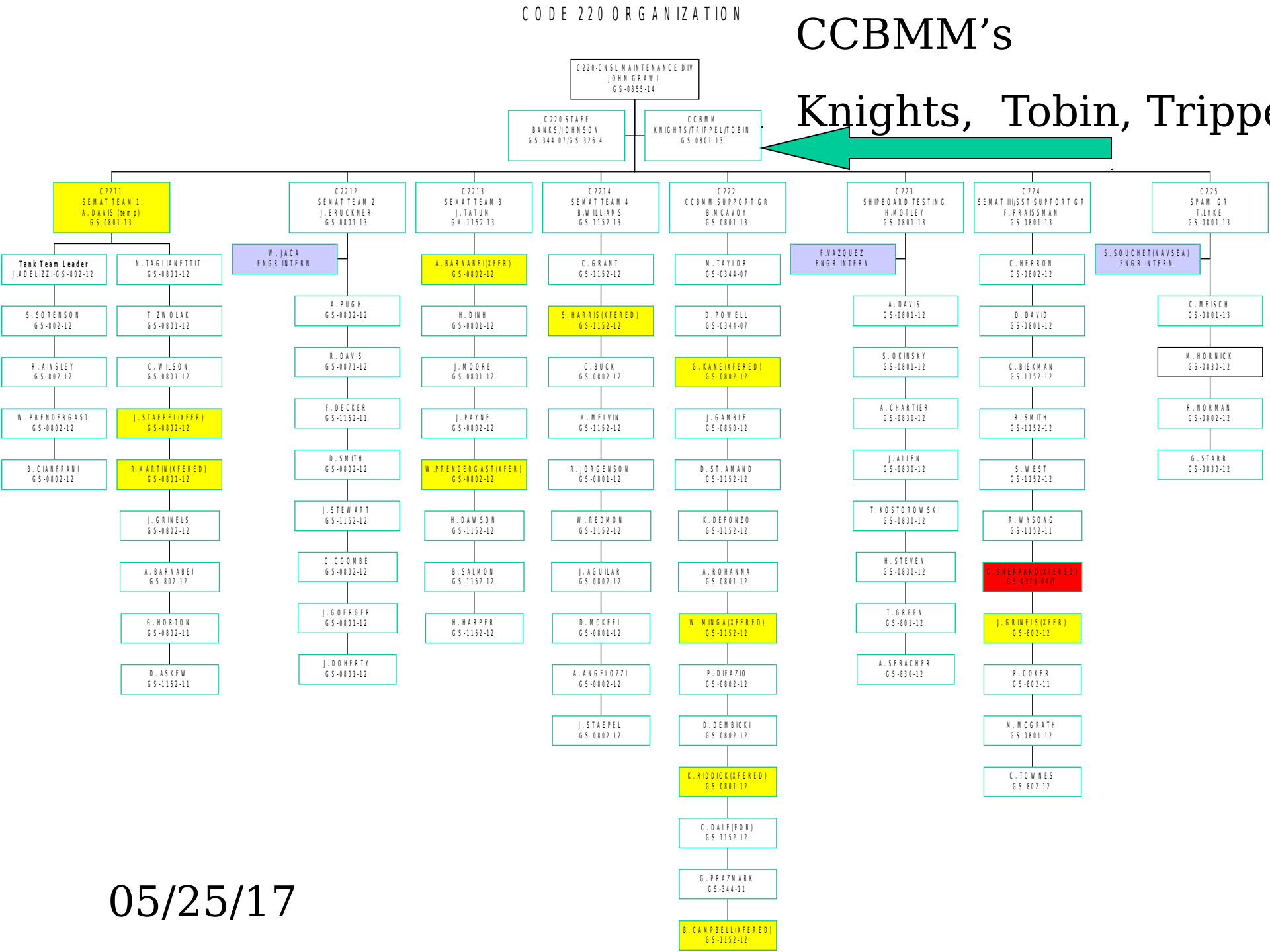
- **CONDITION BASED MANTENANCE MANAGEMENT(CCBMM)**
- **SEMAT I & II ASSESSMENTS**
- **CCBMM SUPPORT/COMPL 2 KILOS**
- **SHIPBOARD TESTING & VIBRATION ANALYSIS**
- **SEMAT III ASSESSMENTS/SWAAT/SST**
- **SURFACE SHIP PRO-ACTIVE MAINTENANCE(SPaM)**
- **Maintenance requirements System(MRS)**
- **Integrated Class Maintenance Plan(ICMP)**

SUPSHIP Portsmouth Codes 220.1, 220.2 & 220.3

Al Trippel Russ Knights

MikeTobin

Continuous Condition Based Maintenance Managers CCBMM's


CODE 220 ORGANIZATION
CCBMM's
Knights, Tobin, Tripp
C220-CNSL MAINTENANCE DIV
JOHN GRAWL
GS-0855-14
C220 STAFF
BANKS/JOHNSON
GS-344-07/GS-326-4
CCBMM
KNIGHTS/TRIPPEL/TOBIN
GS-0801-13
C2211
SEMAT TEAM 1
A. DAVIS (temp)
GS-0801-13
C2212
SEMAT TEAM 2
J. BRUCKNER
GS-0801-13
C2213
SEMAT TEAM 3
J. TATUM
GM-1152-13
C2214
SEMAT TEAM 4
B.WILLIAMS
GS-1152-13
C222
CCBMM SUPPORT GR
B.MCAVOY
GS-0801-13
C223
SHIPBOARD TESTING
H.MOTLEY
GS-0801-13
C224
SEMAT III/JSST SUPPORT GR
F.PRAISSMAN
GS-0801-13
C225
SPAM GR
T.LYKE
GS-0801-13
Tank Team Leader
J.ADELIZZI-GS-802-12
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R.AINSLEY
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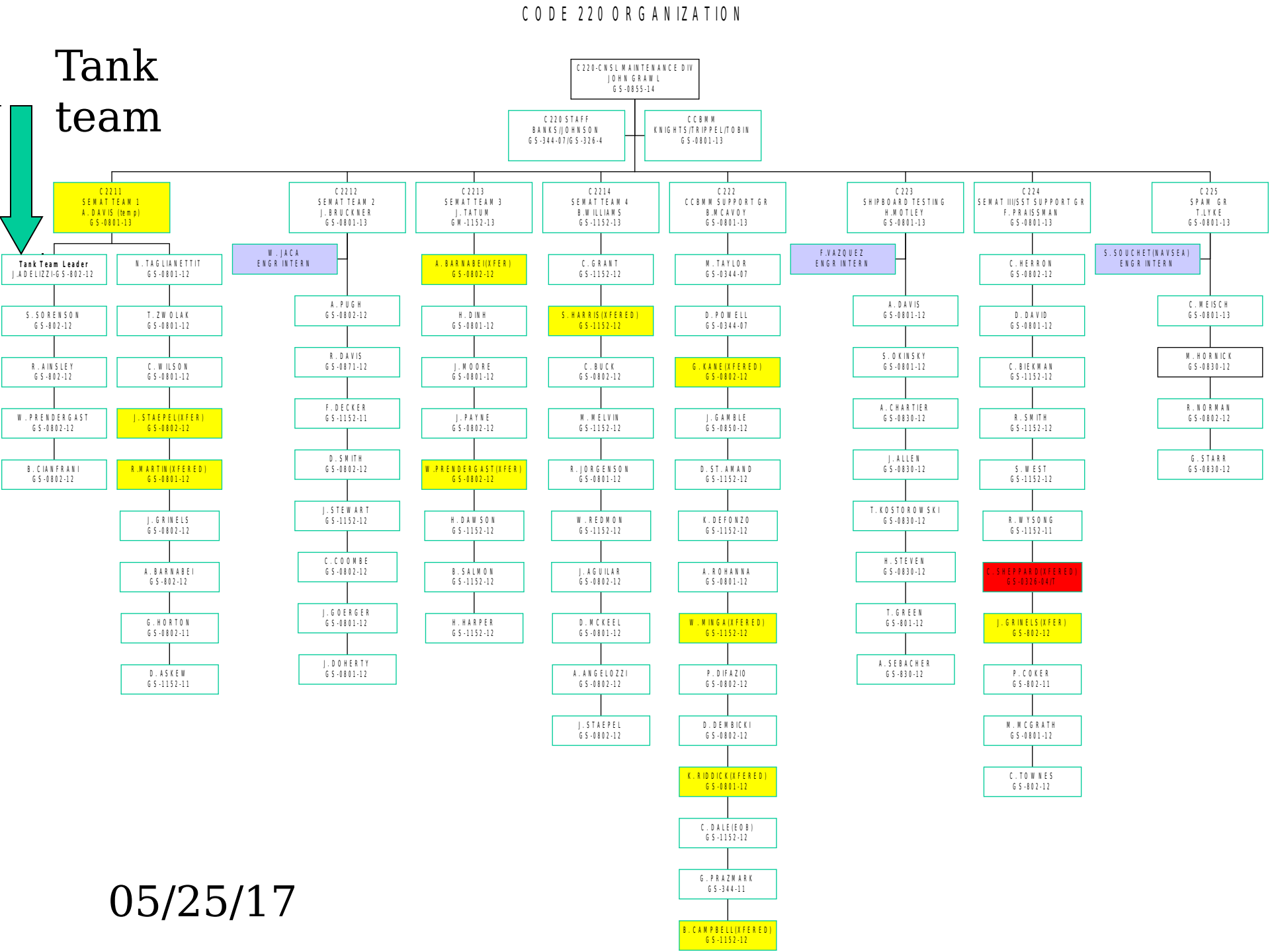
05/25/17

Tank team



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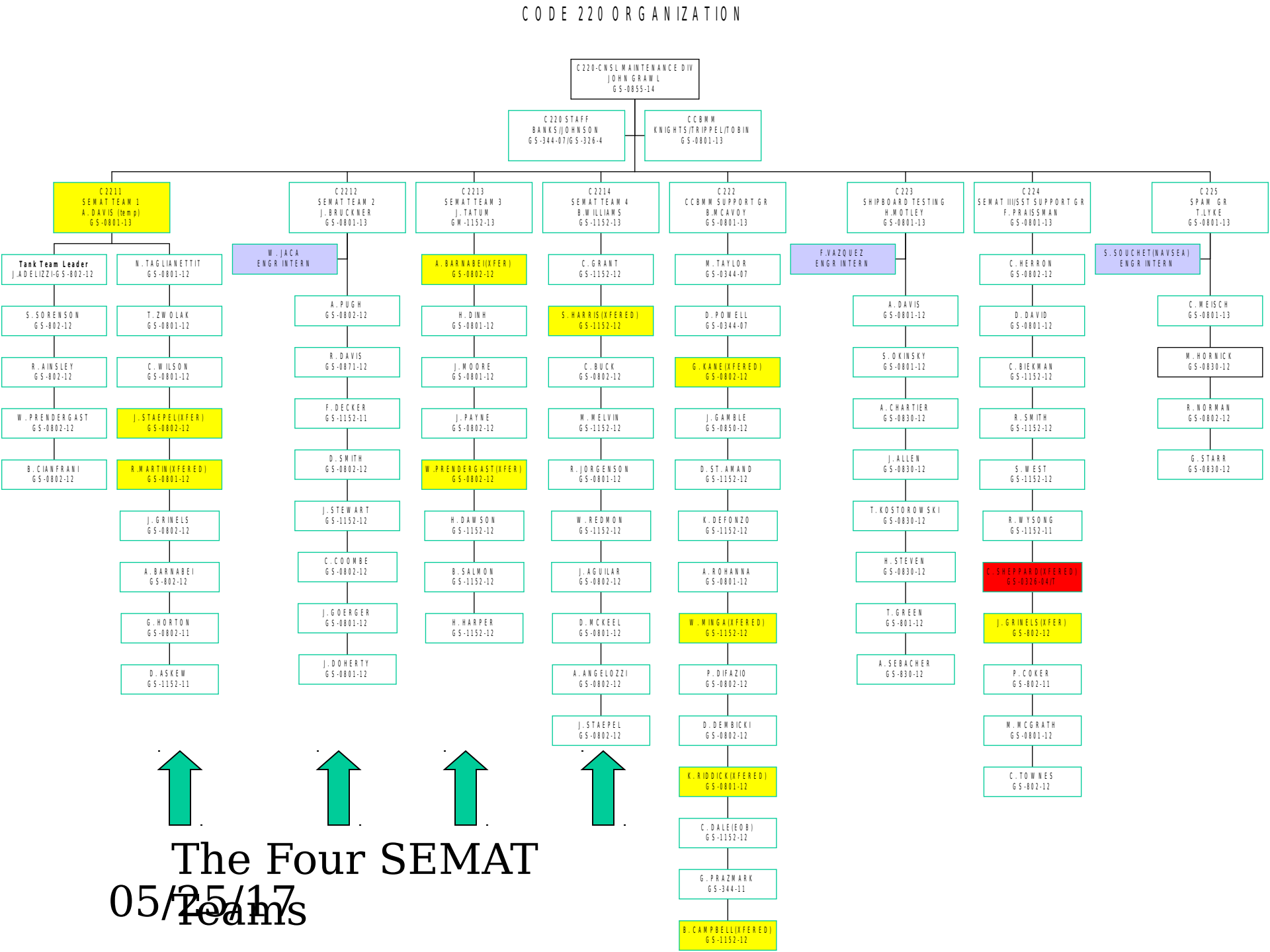
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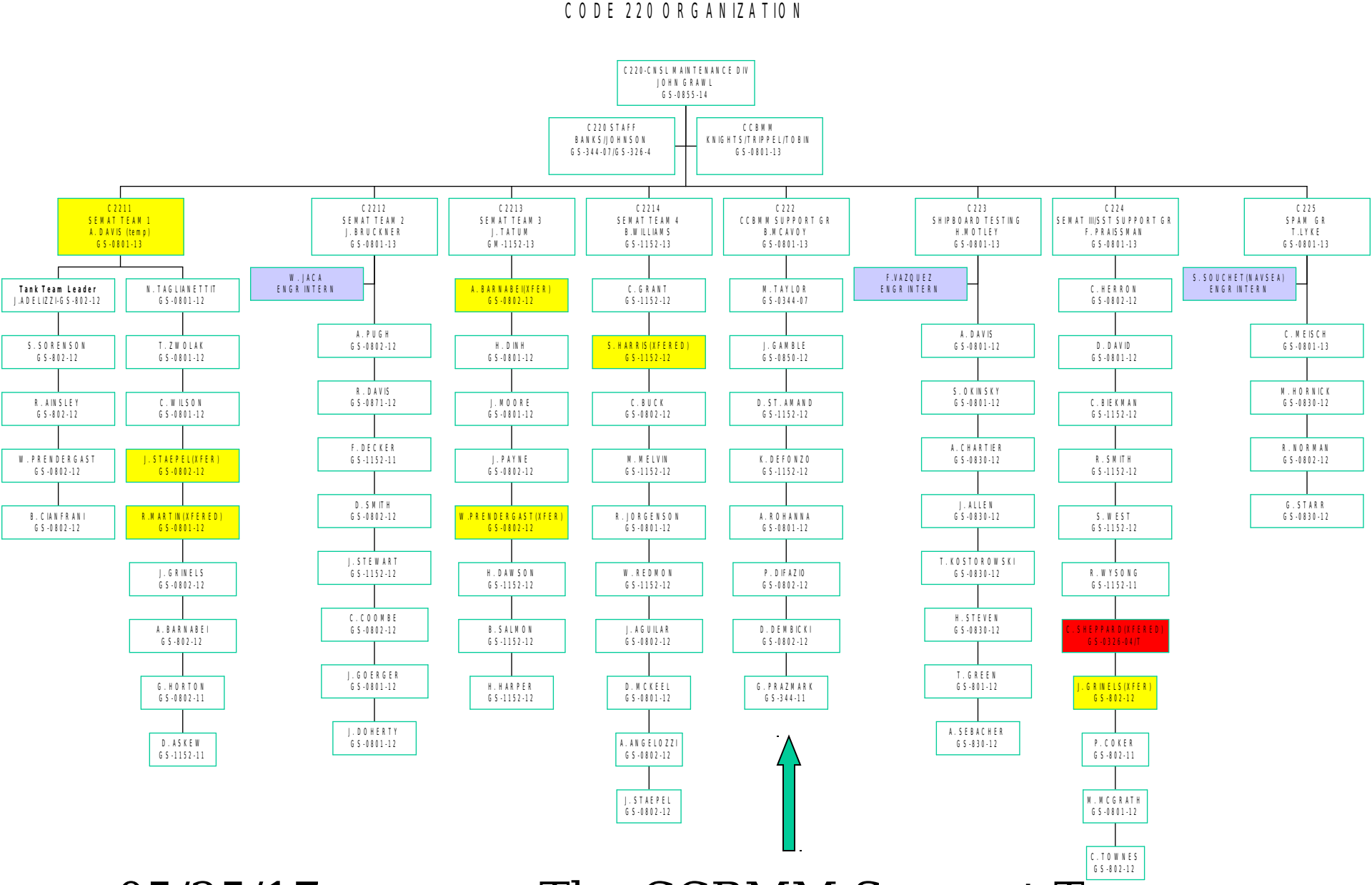
The Four SEMAT Teams
05/25/17



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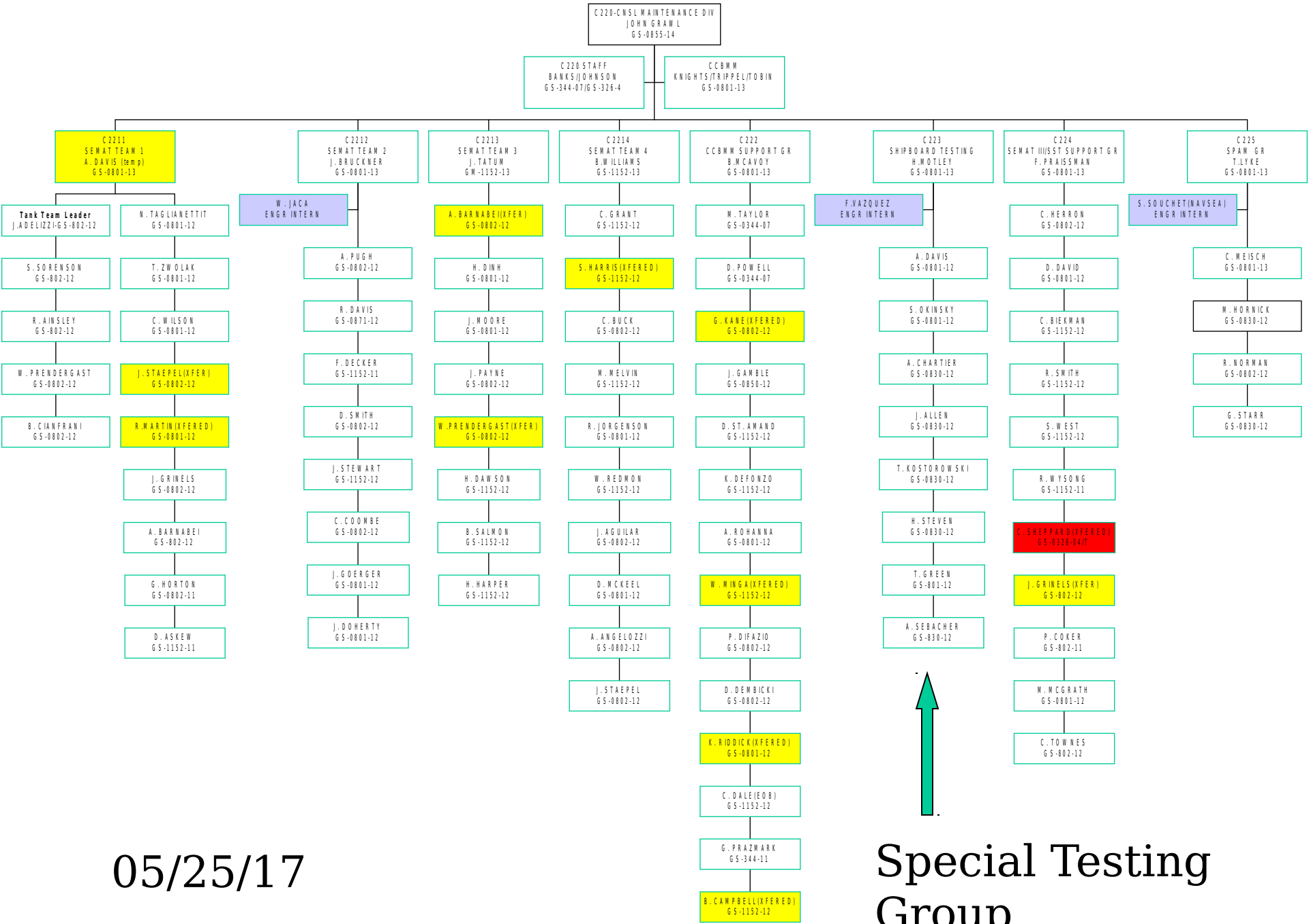
The CCBMM Support Team

CODE 220 ORGANIZATION



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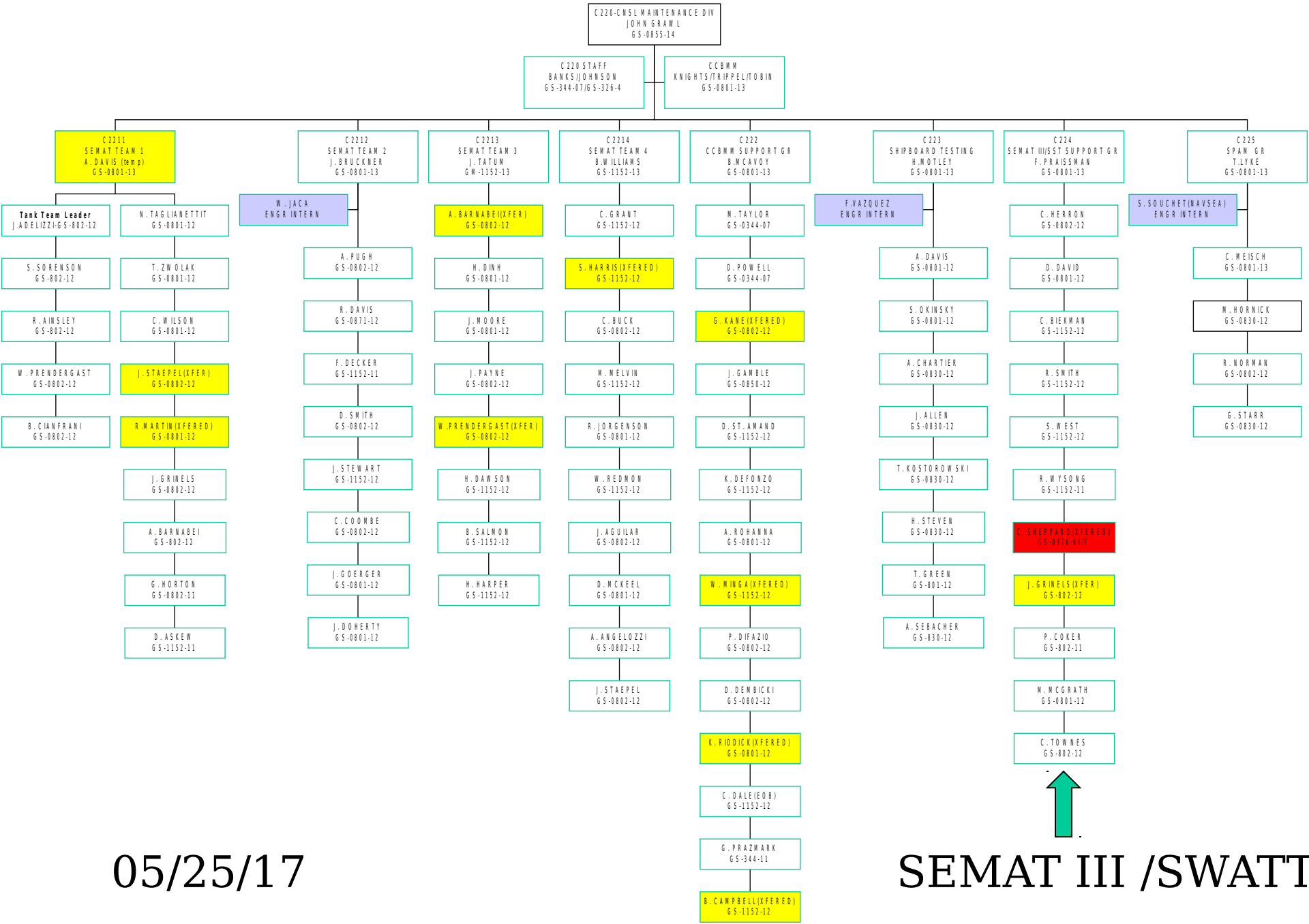
Special Testing Group

CODE 220 ORGANIZATION



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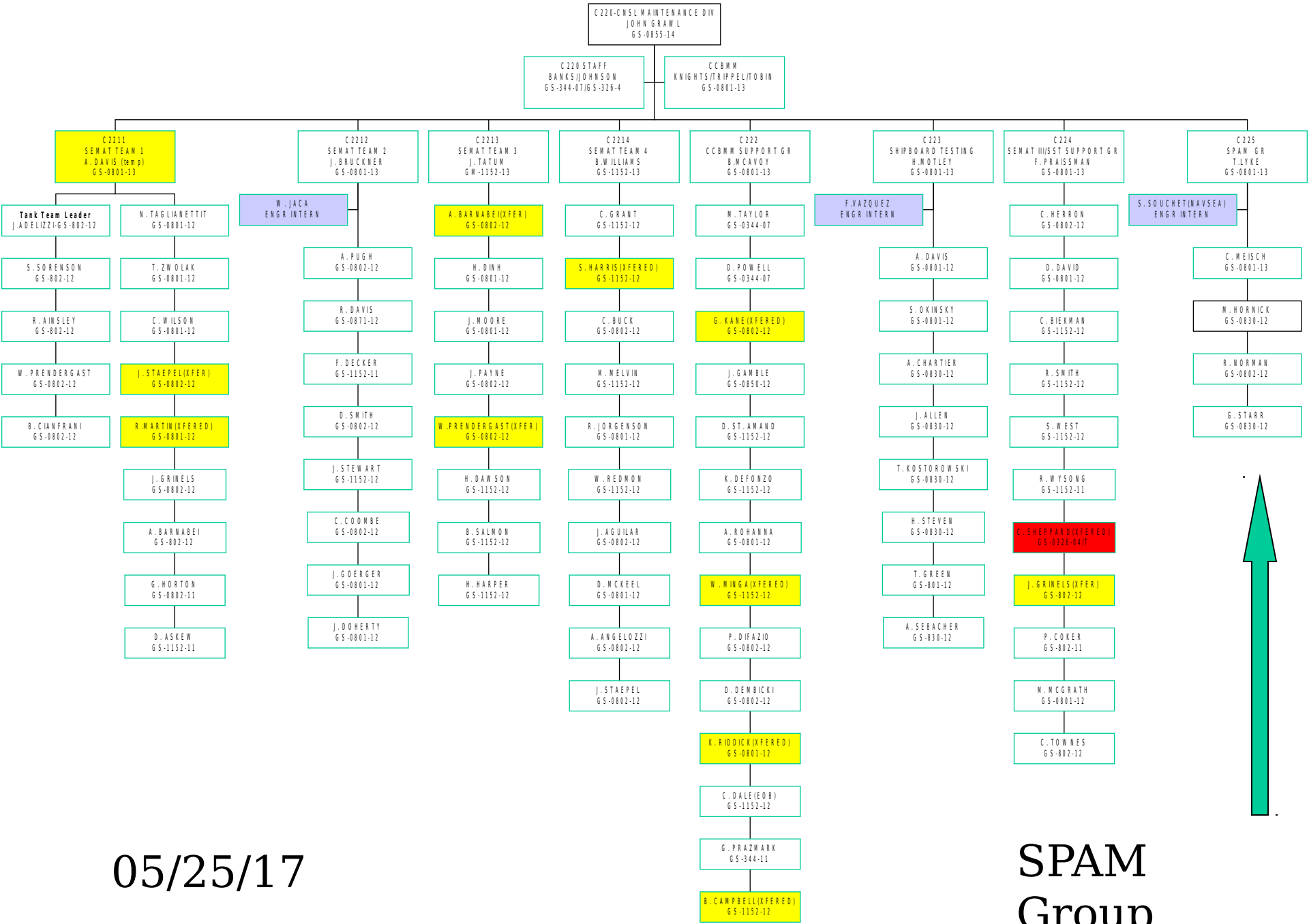
SEMAT III /SWATT

CODE 220 ORGANIZATION



05/25/17

SPAM Group

- CCBMM’s (3 People)
  - Combatants
  - Amphibious/Auxiliaries/Mine Warfare Ships
  - Tank and Void Planning and Analysis
- Ensure all assessment and advance planning milestones are scheduled (ASR)
- Maintains Master Assessment Index (MAI)
- Loads work candidates for ICMP,Alterations,Routines,Tanks,CBDD and AIT support into MRMS.
- Reports completion of all depot level work to 3-M system (OARS).
- Provide data/check list to TDO for condition based dry-docking decisions.
- Manages CNSL tank and void program.
- Manages SEMAT WWW data
- Facilitates TDO McMPR

USS CARNEY SHIP MAINTENANCE MILESTONES

Report Date: 5-Jan-02

START DATE: 01/15/03 **COMPLI PLACT: SBATH**

P E: JOE MARQUES ISIC: COMDE **TDO: LT H. JONES**

HOMEPORT: MAYPT

Events	Responsible	Target	Notional	REV	COMP
LOAD CONDITION BASED DD 2-KILOS	SPORT	A-390	21-Dec-01		30-Apr-01
CONDUCT C5RA ASSESSMENT	CNSL/SHIP	A-370	10-Jan-02	29-Oct-01	29-Oct-01
CONDUCT SEMAT II ASSESSMENT	CNSL/SHIP	A-370	10-Jan-02	29-Oct-01	29-Oct-01
CONDUCT MID-CYCLE MAINT REVIEW(D-60)	CNSL TDO	A-300	21-Mar-02	10-Jan-02	TODAY
DETERMINE DRYDOCKING REQMTS (D-60)	CNSL TDO	A-300	21-Mar-02		
DETERMINE AVAILABILITY TYPE (D-45)	CNSL TDO	A-285	5-Apr-02		
REVIEW/LOAD/SCREEN TYCOM ROUTINES (D-30)	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN NON-ASSESSABLE ICMP (D	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN D/E/F ALTS (D-90)	CNSL/TDO/SPORT	A-270	22-Apr-02		
CONDUCT SEMAT III AND ZONE INSP (R-90)	SPORT/SHIP/MM	A-135	2-Sep-02		

USS CARNEY SHIP MAINTENANCE MILESTONES

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CONDUCT MID-CYCLE MAINT REVIEW(D-60)	CNSL TDO	A-300	21-Mar-02	10-Jan-02	TODAY
DETERMINE DRYDOCKING REQMTS (D-60)	CNSL TDO	A-300	21-Mar-02		
DETERMINE AVAILABILITY TYPE (D-45)	CNSL TDO	A-285	5-Apr-02		
REVIEW/LOAD/SCREEN TYCOM ROUTINES (D-30)	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN NON-ASSESSABLE ICMP (D	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN D/E/F ALTS (D-90)	CNSL/TDO/SPORT	A-270	22-Apr-02		
CONDUCT SEMAT III AND ZONE INSP (R-90)	SPORT/SHIP/MM	A-135	2-Sep-02		

USS CARNEY (DDG 64)

Mid Cycle Maintenance Project Review

(McMPR)

for FY 2003 DSRA

Agenda and Contents

-Opening remarks - TDO/TDA

-Review Reconciliation Results - TDO/TDA

-Review Planning Milestones-TDO/TDA
(see Availability Status Report (ASR)

-Review Prioritized CSMP -MM
(see Integrated Priority Report)

-Review Status of Planning Estimates -MM
(see Integrated Priority Report)

- Review Programmed Alterations - TDO/TDA
(see FMPMIS Printout)

-Review status of Assessments - CCBMM
(see Master Assessment Index - MAI)

-Ship's Force Issues - USS CARNEY

TDO - LCDR H. JONES CNSL N431A6 757-836-3354
MM - JOE MARQUES 904-270-6315
CCBMMS- RUSS KNIGHTS / AL TRIPPEL / MIKE TOBIN SPORT C 220 757-396-4001

USS CARNEY

Integrated Priority Report as of 1/6/02

block 47 info codes

DD =Drydock reqd; **DR** =Drydock recommended; **DN** =Not drydock related.

C1 =delay will increase cost significantly; **C2** =delay will increase cost; **C3** =not cost sensitive.

D1 =3 week or less duration; **D2** =3 to 9 week duration; **D3** =over 9 week duration.

IPN	JCN	CSMP SUMMARY	ENN	46F	46I	46J	SWLIN	AVAIL	LOCAT	DATE	STATE	TO
99999	21923-CA04-C329	TORP MT SUSPECT BEARING WEAR	TUBE, TORPEDO, S				?????	361	01-340-1-WE/	16-NOV-2001	Assignment Required	
99999	21923-CA04-C330	TORP MT SUSPECT BEARING WEAR	TUBE, TORPEDO, S				?????	361	01-340-2-WE/	16-NOV-2001	Assignment Required	
99999	21923-CG01-R021	S/A 347D AMMO STRIKEDOWN HATCH	5"/54 CAL STRIKE				71211	361	4-72-0-Q	05-OCT-2001	Assignment Required	
99999	21923-CM01-C320	RESURFACE SUPP SVCS FWD VLS.	LAUNCHER, VERTIC				?????	361	3-78-0-M	14-DEC-2001	Authorized	SUPSHIP BATH ME
99999	21923-CM01-C321	RESURFACE SUPP SVCS AFT VLS.	LAUNCHER, VERTIC				?????	361	3-338-0-M	14-DEC-2001	Authorized	SUPSHIP BATH ME
99999	21923-EA01-Y009	SWS PUMP DISCH CHK VALVES LEAK	VALVE,DISCHARGE				25665	361	MER, AMR	25-JUL-2000	Assigned	SUPSHIP BATH ME
99999	21923-EA01-Y010	S/W SVCS PUMPS ERODED FITTINGS	PUMP UNIT, SEAWA				25674	361	MER, AMR	14-DEC-2001	Authorized	SUPSHIP BATH ME
99999	21923-EA01-Z136	POTW TK - GAS FREE	POTABLE WATER TK				12314	361	4-126-2-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z137	POTW TK - GAS FREE	POTABLE WATER TK				12314	361	4-150-1-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z138	POTW TK - GAS FREE	POTABLE WATER TK				12314	361	4-150-2-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z139	POTW TK - INSP	POTABLE WATER TK				12314	361	4-126-1-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z140	POTW TK - INSP	POTABLE WATER TK				12314	361	4-126-2-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z141	POTW TK - INSP	POTABLE WATER TK				12314	361	4-150-1-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z142	POTW TK - INSP	POTABLE WATER TK				12314	361	4-150-2-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z143	POTW TK - RPR	POTABLE WATER TK				12314	361	4-126-1-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z144	POTW TK - RPR	POTABLE WATER TK				12314	361	4-126-2-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z145	POTW TK - RPR	POTABLE WATER TK				12314	361	4-150-1-W	12-NOV-1999	Assigned	
99999	21923-EA01-Z146	POTW TK - RPR	POTABLE WATER TK				12314	361	4-150-2-W	12-NOV-1999	Assigned	
99999	21923-EB14-P034	TK 5-174-1-F BLISTERED PAINT	FUEL OIL STORAGE				12311	361	5-174-1-F	25-JUL-2000	Assigned	SUPSHIP BATH ME
99999	21923-EB14-P037	TK 5-42-0-F BLISTERED PAINT	FUEL OIL STORAGE				12311	361	5-42-0-F	25-JUL-2000	Assigned	SUPSHIP BATH ME
99999	21923-EB14-P040	TK 5-212-4-F COATING FAILURE	COMPENSATED FUEL				12311	361	5-212-4-F	25-JUL-2000	Assigned	SUPSHIP BATH ME
99999	21923-EB14-P043	TK 5-214-1-F COATING FAILURE	COMPENSATED FUEL				12311	361	5-214-1-F	25-JUL-2000	Assigned	SUPSHIP BATH ME

USS CARNEY

Programmed Alterations FOR FY 2002 AVAIL

Fmpmis data as of 1/5/02

ALT	TITLE	
00271	NEW HELLAN STAINERS #1 & #2	D
00271	NEW HELLAN STRAINERS #1-#4	D
00271	NEW HELLAN STRAINERS #1 & #2	D
00271	NEW HELLAN STRAINERS LPAC#1-#3	D
00271	NEW HELLAN STRAINERS #1 & #2	D
64151	DMS/FODMS 92 PIN CONNECTOR EMI	E
64173	SONAR DOME AIRLOCK IND. PRESS.	E
64182	STOW BRKT FOR VLS SIL LIFT ADP	E
64190	UPTAKE LOW POINT DRAIN MOD & M	E
64198	INSTL RED LGHTNG COMP 0-1/2-18	E
64204	COMPOSITE FAIRWATR REPL&REMBL	E
64225	FAIRWATER ACCESS OPENING	E

USS CARNEY SHIP MAINTENANCE MILESTONES

Report Date: 5-Jan-02

START DATE: 01/15/03 **COMPLI PLACT: SBATH**

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DETERMINE AVAILABILITY TYPE (D-45)	CNSL TDO	A-285	5-Apr-02		
REVIEW/LOAD/SCREEN TYCOM ROUTINES (D-30)	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN NON-ASSESSABLE ICMP (D	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN D/E/F ALTS (D-90)	CNSL/TDO/SPORT	A-270	22-Apr-02		
CONDUCT SEMAT III AND ZONE INSP (R-90)	SPORT/SHIP/MM	A-135	2-Sep-02		

Condition Based Maintenance

Engineered Approach to Decision Making

WHY ?

It is Required by OPNAVINST 4700.7J

Condition Based Maintenance (CBM) - "…Ship Maintenance Policy is to be based on Condition Based Maintenance (CBM) Diagnostics, Inspections and Tests to the maximum extent possible…"

Condition Based Maintenance

Engineered Approach to Decision Making

WHO?

FTSC

C5RA

SPORT C220

RSG

Condition Based Maintenance

Engineered Approach to Decision Making

WHAT SYSTEMS?

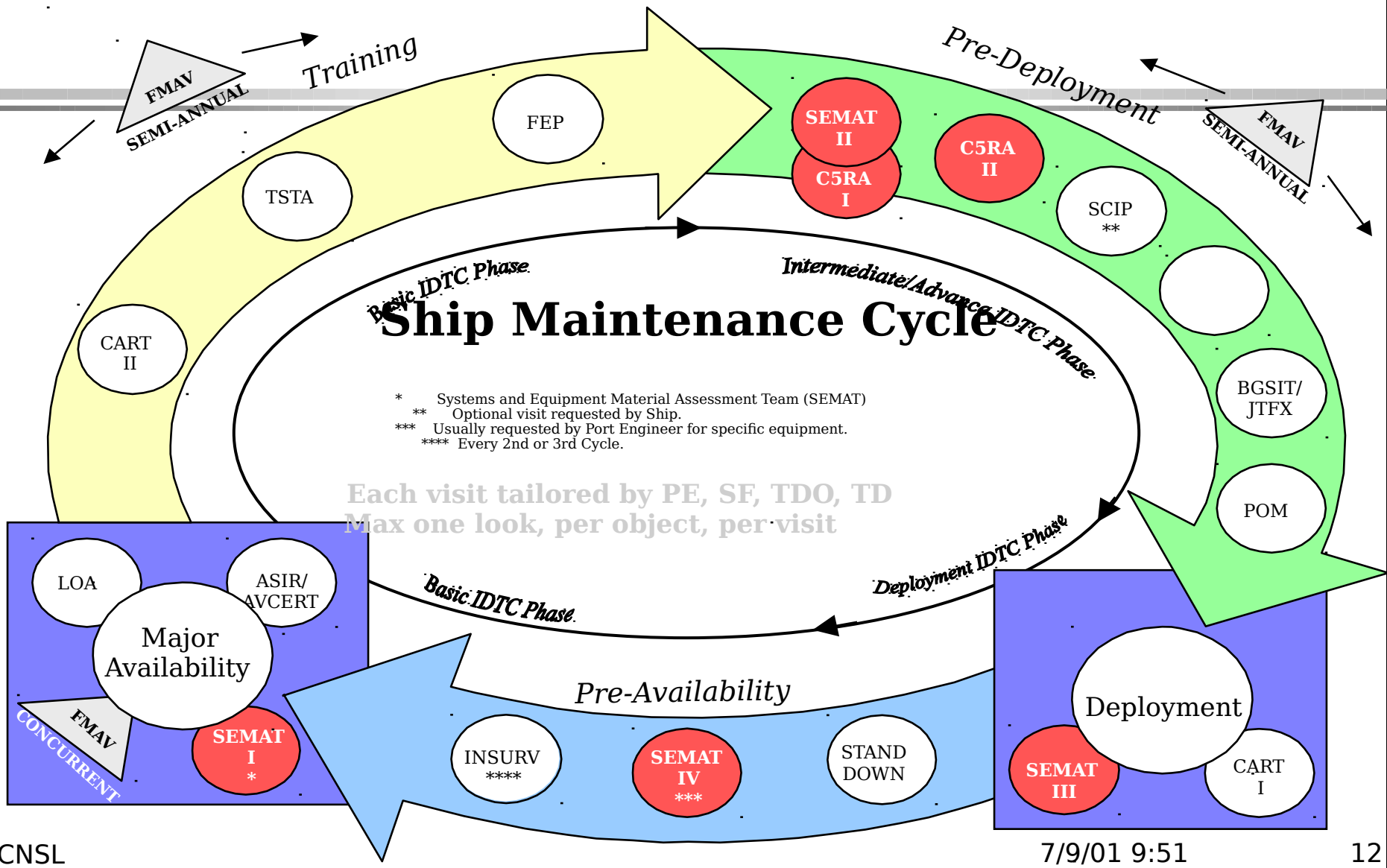
Master Assessment Index

Maintained for each hull by SPORT

USS MCFAUL (DDG 74) MASTER ASSESSMENT INDEX

SWLIN	NOUN NAME	EQUIP ID	ASSESSING ACTIVITY	ASSESSMENT VISIT	LAST ASSESSMENT DATE	NEXT SCHEDULED DATE
11011	HULL, UNDERWATER BODY	HULL, UNDERWATER BODY	SPORT	SEMAT I		04/21/03
11011	HULL, UNDERWATER BODY	HULL, UNDERWATER BODY	SIMA	U/W		
12311	FUEL OIL STORAGE	5-126-1-F	SPORT	SEMAT I	11/02/00	04/21/03
12311	FUEL OIL STORAGE	5-126-2-F	SPORT	SEMAT I	11/02/00	04/21/03
12321	VOID	5-34-0-V	SPORT	SEMAT I		04/21/03
12321	VOID	5-204-1-V	SPORT	SEMAT I		04/21/03
16711	HULL STRUCTURAL CLOSURES	WATERTIGHT HATCHES	SPORT	SEMAT I + II	11/22/00	04/21/03
23411	PROPULSION GAS TURBINE, MA	BASE ENCLOSURE 1A	FTSCLANT	SEMAT II	03/26/99	
23411	PROPULSION GAS TURBINE, MA	DAMPER-VENT 1A	FTSCLANT	SEMAT II	03/26/99	
23411	PROPULSION GAS TURBINE, MA	GAS GENERATOR ASSY 1A	FTSCLANT	SEMAT II	03/26/99	
26121	PUMPS, FUEL SERVICE - NO.	PUMP MTR 1A	FTSCLANT	SEMAT II	03/26/99	
26121	PUMPS, FUEL SERVICE - NO.	FO SVC PMP 1B	FTSCLANT	SEMAT II	03/26/99	
41211	TACTICAL DATA PROCESSING	AN/UYK-43A(V)	FTSCLANT	C5RA	03/25/99	
41211	TACTICAL DATA PROCESSING	AN/UYK-44(V) W/O	FTSCLANT	C5RA	03/25/99	
41211	TACTICAL DATA PROCESSING	AN/UYH-3(V) RECP	FTSCLANT	C5RA	03/25/99	
44111	COMMUNICATION ANTENNA SYST	OA-9242(V)4/SR ANT TILT GR	FTSCLANT	C5RA	03/25/99	
44121	ANTENNA MULTICOUPLER-TUNER	CU-2007/SRR COMBINER-MULTI	FTSCLANT	C5RA	03/25/99	
44121	ANTENNA MULTICOUPLER-TUNER	CU-2113/SRC COUPLER ANT	FTSCLANT	C5RA	03/25/99	
44121	ANTENNA MULTICOUPLER-TUNER	AN/SRA-56 ANT CPLR NO. 2	FTSCLANT	C5RA	03/25/99	
48299	FIRE CONTROL SYSTEM, MISSI	MK99 MOD3 FIRE CONTROL SYS	FTSCLANT	C5RA	03/25/99	
48299	FIRE CONTROL SYSTEM, MISSI	AN/SPG-62A RADAR SET	FTSCLANT	C5RA	03/25/99	

When?


Training
FMAV
SEMI-ANNUAL
FEP
TSTA
CART II
Pre-Deployment
SEMAT II
C5RA I
C5RA II
SCIP **
BGSIT/ JTFX
POM
FMAV
SEMI-ANNUAL
Basic IDTC Phase
Intermediate/Advanced IDTC Phase
Ship Maintenance Cycle
* Systems and Equipment Material Assessment Team (SEMAT)
** Optional visit requested by Ship.
*** Usually requested by Port Engineer for specific equipment.
**** Every 2nd or 3rd Cycle.
Each visit tailored by PE, SF, TDO, TD
Max one look, per object, per visit
Deployment IDTC Phase
Basic IDTC Phase
LOA
ASIR/ AVCERT
Major Availability
FMAV
CONCURRENT
SEMAT I *
Pre-Availability
INSURV ****
SEMAT IV ***
STAND DOWN
Deployment
SEMAT III
CART I

Why Do Condition Based Dry-Docking?
It is Condition Based Maintenance

- Required by OPNAVINST 4700.7J DEC 92

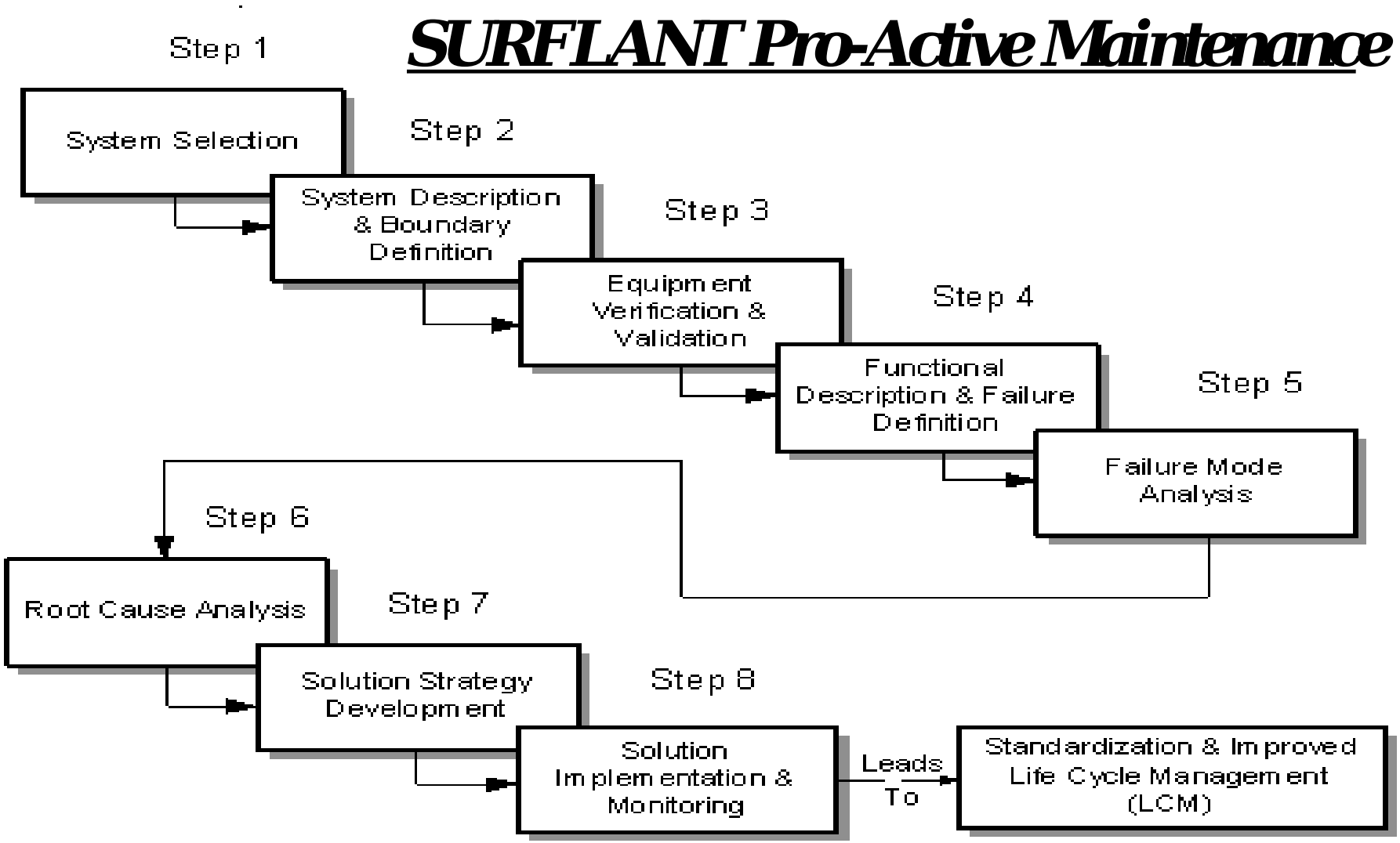
  "...Ship Maintenance Policy is to be based on Condition Based Maintenance (CBM) Diagnostics, Inspections and Tests to the maximum extent possible…"

- Smart
  - Reduces Life Cycle Costs
  - Increases Operational Availability
  - Less reduction crew proficiency
- Admiral Boorda told us to do it

An Engineered Approach to Decision Making

How Did We Develop the Process?

SPaM - The Process



How Did We Develop the Process?_

What Systems are the Dry-Docking Drivers?

Systems	Assessable	PMIT
• Hull Structure & Plate*	Yes	PMIT #7
• Sea Valves/Chests	Yes	PMIT #1
• U/W Hull Paint	Yes	PMIT #2
• Propulsion Shafting/Air	***No***	PMIT #3
• Propellers	Yes	PMIT #3
• Waterborne Brgs/Rudder	Yes	PMIT #3
• Sonar Dome	Yes	PMIT #4
• Cathodic Protection	Yes	PMIT #5
• Tanks/Voids	Yes	PMIT #6

* Added from Lessons Learned (Changed from SF to SEMAT)

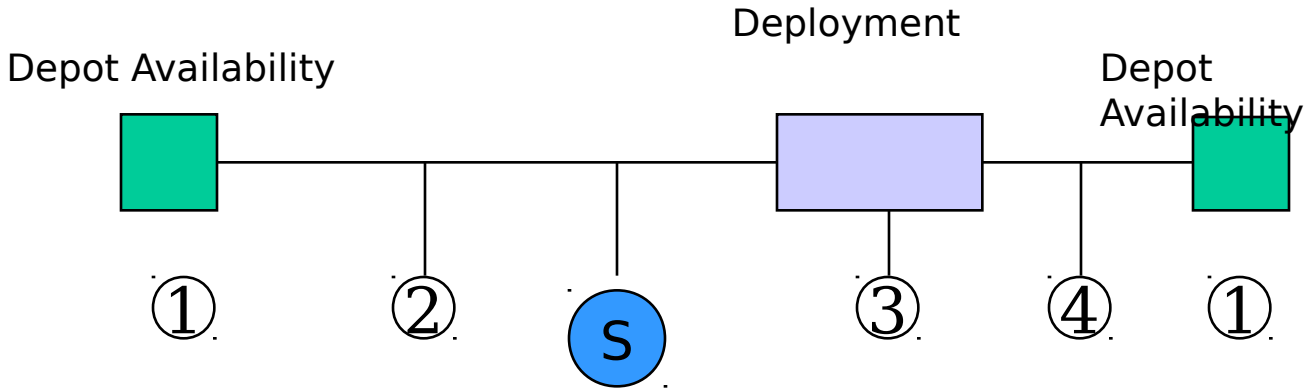
How Did We Develop the Process?

Key Team Members

CDR Bob Verbos(SEA 05p)
Ron Kleisler (FTSCLANT)
LCDR Mike Smith(PMS 400F2)
Ed Kadala (SEA 05P)
Chester Arazy(NSWCCD)
Tom Gooding (SEA 0502)
Jeff Goldring (SEA 0502)
Stan Silversteen(PMS411)
Craig Garland (SEA 04M1)
Winfred Jones (NNSY)
John Kern (NNSY)
Bucky Glenn (CNSL N434N)
Alan Federovich (CNSL N434A11)

Tom Packard(SEA 05p)
LCDR Scott Mattingly(SEA 00
James Bourne(PEO TSC)
Terry Pollard (SPORT 244)
Mark Ingle (SEA 04)
Gerry Bohlander(NSWCCD)
Ernie East (FTSCLANT)
Walter Delong (NNSY)
Jeff Peters (SEA 00C5P)
Al Trippel (SPORT 221)
Jeff Grimm(FTSCLANT)
John Wessel (CNSL N43EO)
Jerry Cerkez (SPORT)

CNSL ASSESSMENT CYCLE



① **SEMAT I** - Scheduled during major depot availability.

② **SEMAT II/CSRR I** - Scheduled during pre-deployment work-up. Covers equipment with shorter half life.

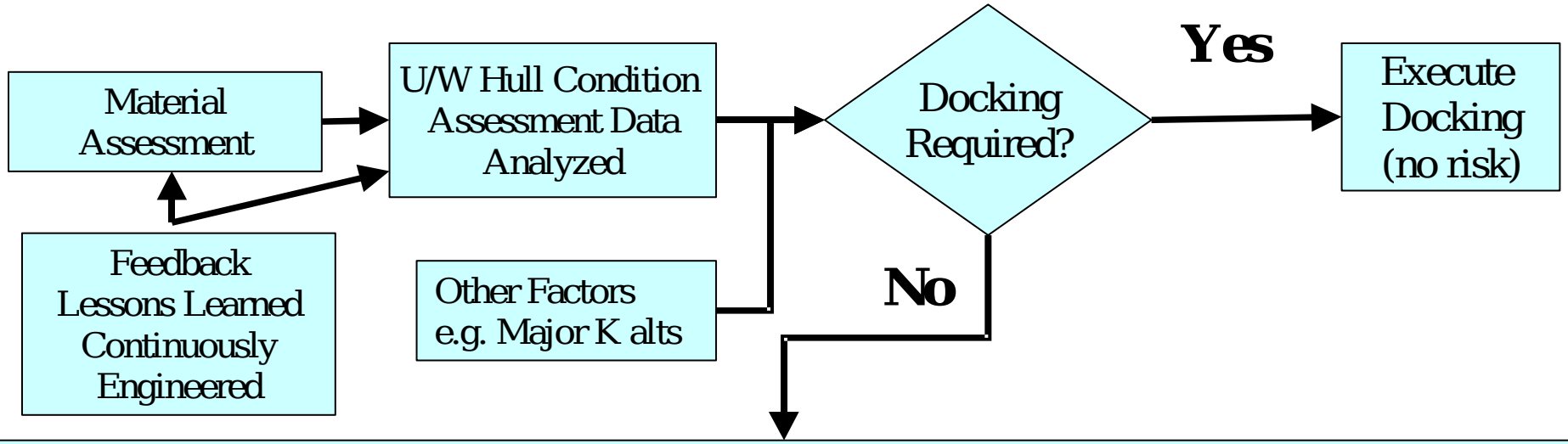
S **Special** - **Underwater hull assessment to determine drydocking requirements**

③ **SEMAT III** - Scheduled near end of deployment. Covers equipment assigned to Ship's Force. Helps clean up CSMP for return to CONUS

④ **SEMAT IV** - Special -. Scheduled during or after

What is Condition Based Dry-Docking?

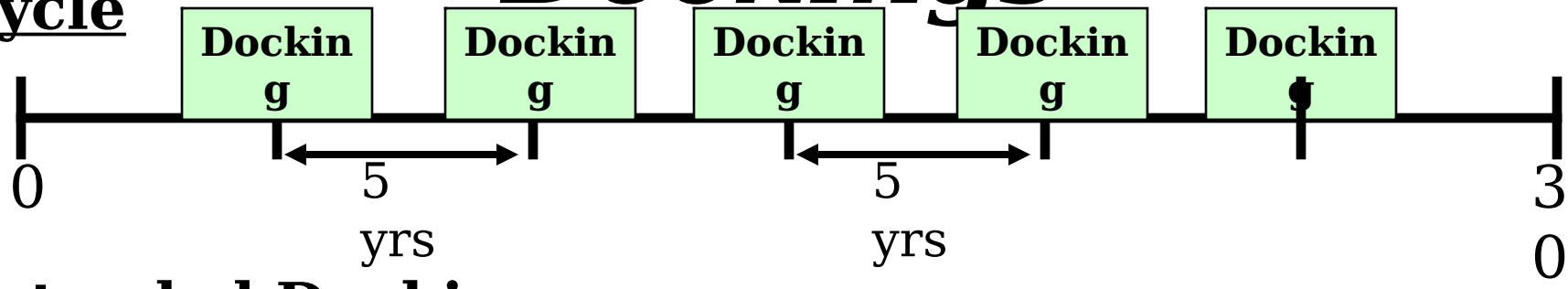
Docking Based on Analysis of Condition



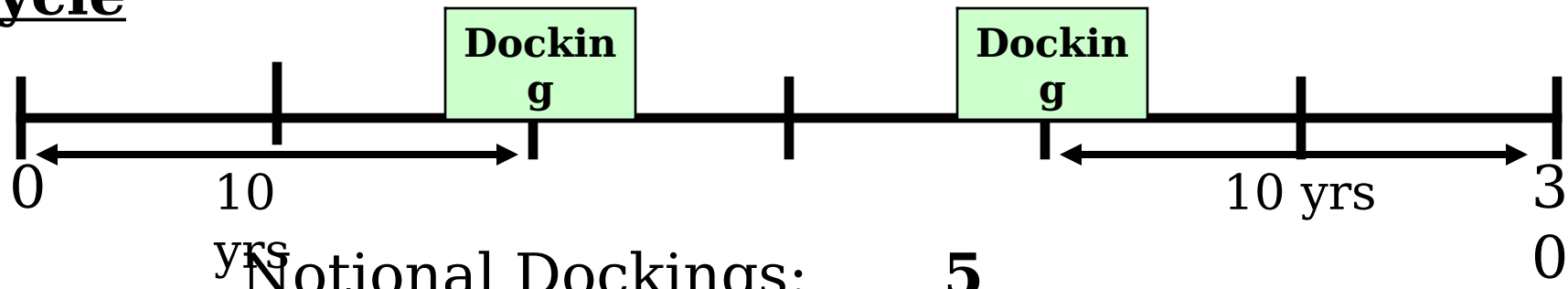
Postpone Docking one IDTC (minimize risk)

Cycle Results in Fewer Dockings

Notional Docking Cycle



Extended Docking Cycle

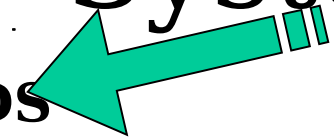


Notional Dockings: **5**

Extended Docking Interval: **2**

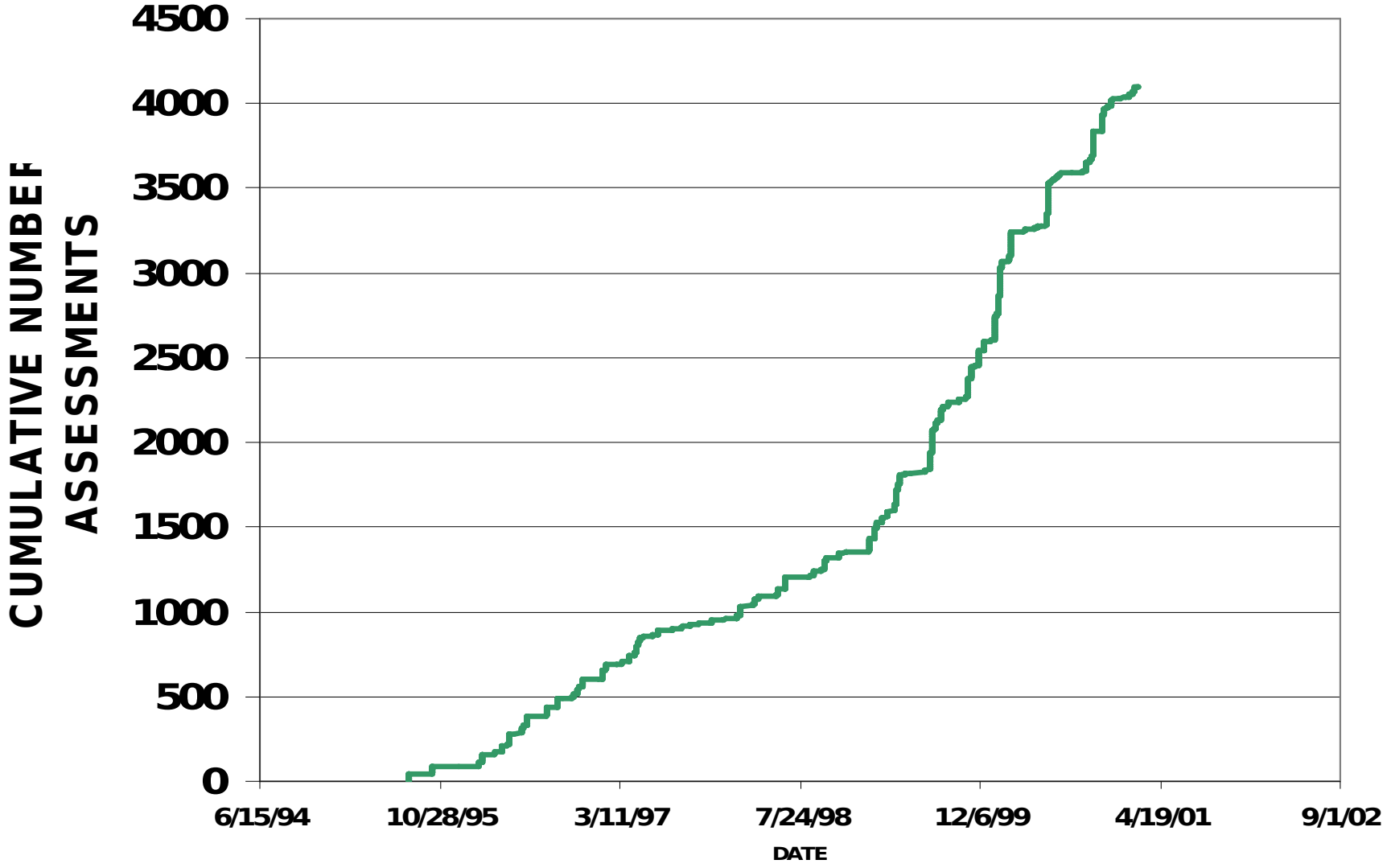
Dockings Saved: **3**

Dry-Docking Related Systems

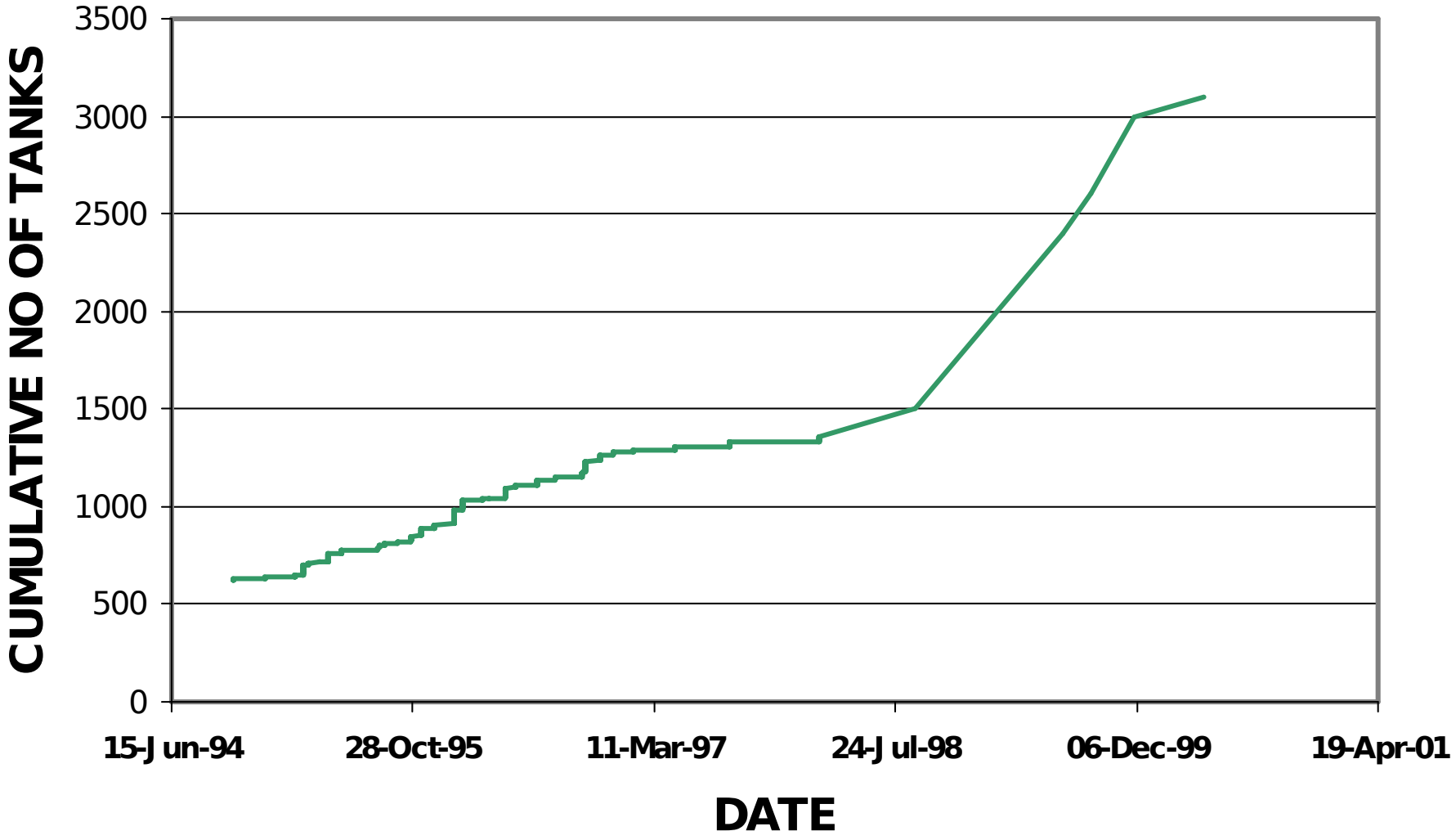


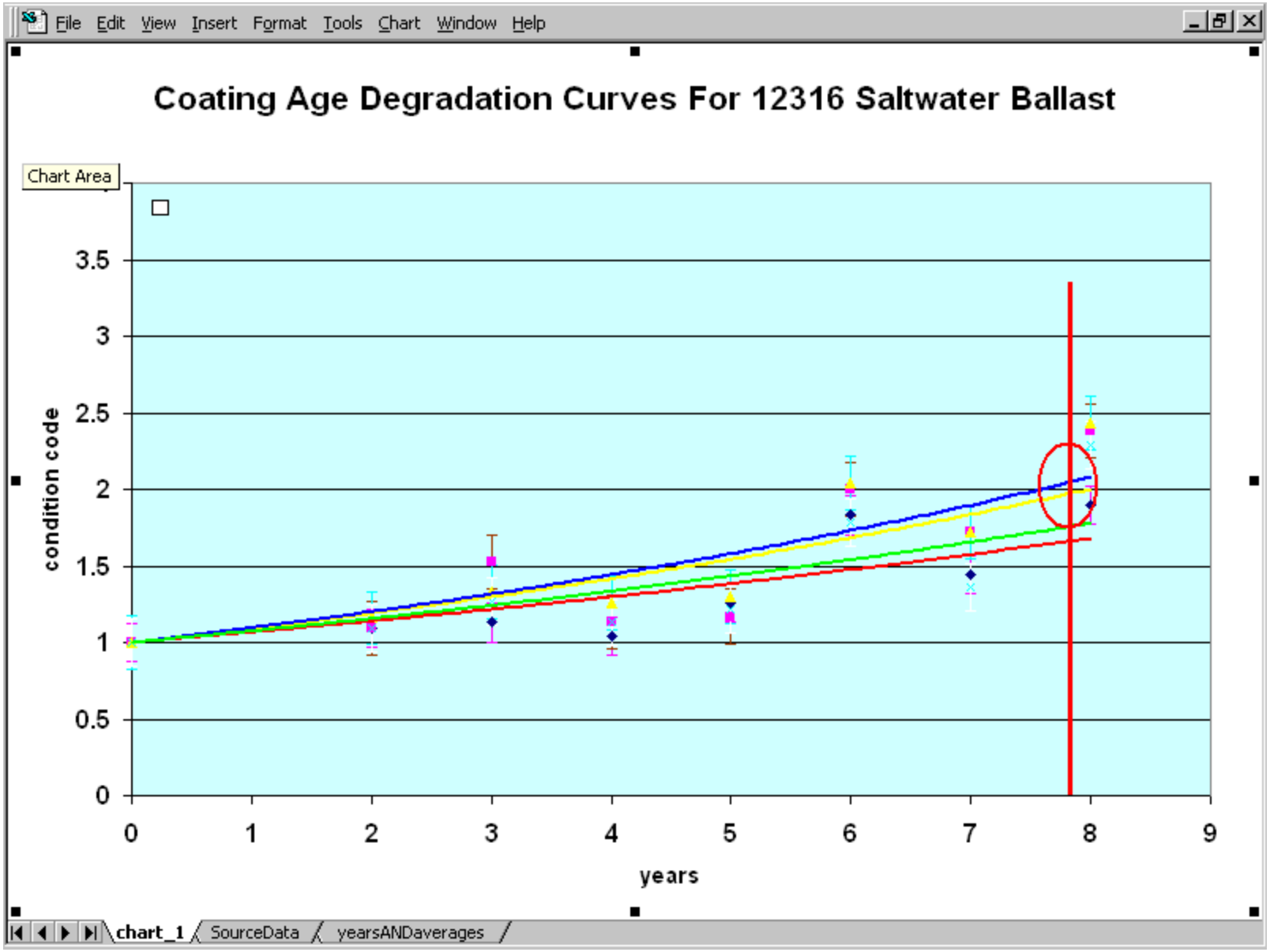
- **TANKS / VOIDS**
- SONAR DOME
- PROPULSION SHAFTING
- WATERBORNE BEARINGS
- PROPELLERS
- SEA VALVES
- RUDDER
- U/W HULL PAINT
- CATHODIC PROTECTION
- DEPARTURE FROM SPECS
- HULL PLATING AND SUPPORTING
  - STRUCTURE

CNSL TANK AND VOID SEMAT ASSESSMENT ACTIVITY



TANK COATING DATA IN SEMAT DATABASE
(CLOSE-OUT DATA)



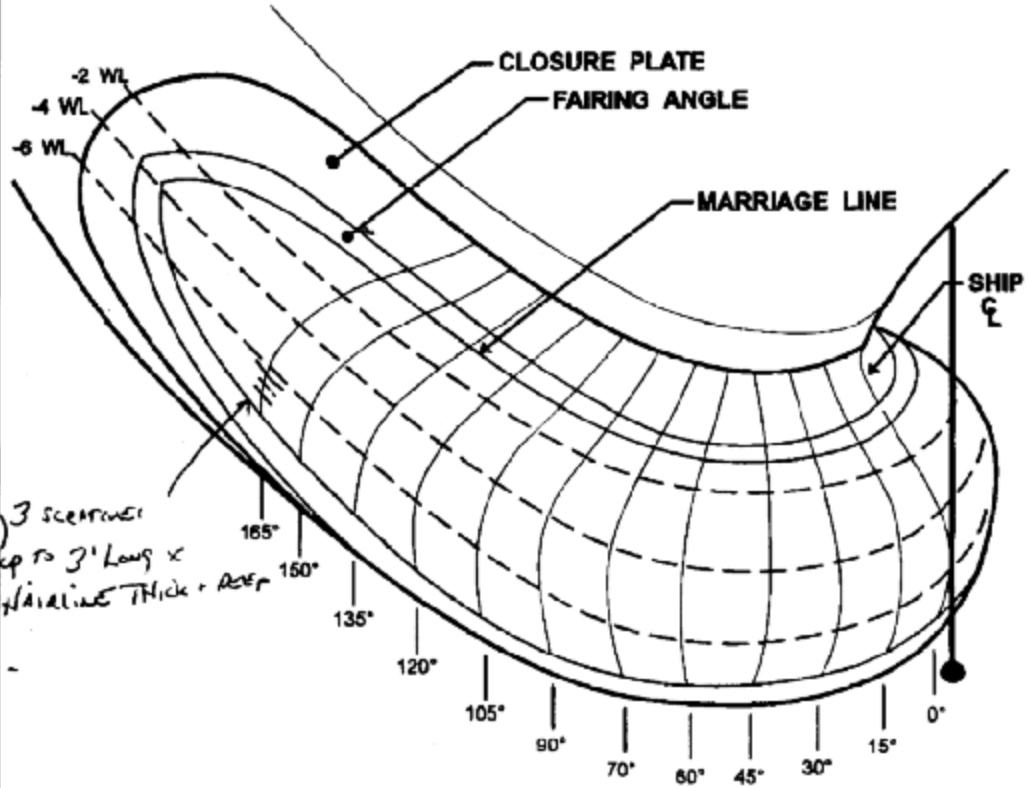

File Edit View Insert Format Tools Chart Window Help
Coating Age Degradation Curves For 12316 Saltwater Ballast
Chart Area
condition code
0
0.5
1
1.5
2
2.5
3
3.5
0
1
2
3
4
5
6
7
8
9
years
chart_1
SourceData
yearsANDaverages

Dry-Docking Related Systems

- TANKS / VOIDS
- **SONAR DOME**
- PROPULSION SHAFTING
- WATERBORNE BEARINGS
- PROPELLERS
- SEA VALVES
- RUDDER
- U/W HULL PAINT
- CATHODIC PROTECTION
- DEPARTURE FROM SPECS
- HULL PLATING AND SUPPORTING
  - STRUCTURE

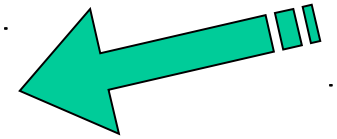
SONAR DOME RUBBER WINDOW INSPECTION DATA

LIKE	HULL NO.	LOCATION	DATE
TICONDEROGA	CG-47	PASCAGOULA	02/15/01



3 SCRATCHES
UP TO 3" LONG X
HAIRLINE THICK + DEEP

Dry-Docking Related Systems



- TANKS / VOIDS
- SONAR DOME
- **PROPULSION SHAFTING**
- WATERBORNE BEARINGS
- PROPELLERS
- SEA VALVES
- RUDDER
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- DEPARTURE FROM SPECS
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  - STRUCTURE

REMARKS (Continue on separate sheet, if necessary)

1. Relocate Cathodic Protection Ref. Cell AFT FR. 276.
2. Seachest: 17 Strainers removed, replaced with new. Replaced lugs & fasteners.
3. 53 Suction Overboard & Utility Hull Openings Ultra Sonic Tested. All Sat.
4. Av6as Seachest Removed and Reinserted at FR. 73-P.
5. Inboard Section of FWD A/C overboard discharge replaced in FWD A/C Machinery Room at FR. 67-S.
6. Replaced existing transducer with new.
7. Underwater Log Sea Valve: Removed, inspected, (Sat), reinstalled.
8. Splitter Bars Main Intakes: Minor clad welding in port scoop injector.
9. Sea Valves: 51 removed, repaired and reinstalled; 30 removed, replaced new; 76 wasters replaced new.
10. Rudders PORT & STBD: Removed, tested, & repaired, epoxy faired and reinstalled.
11. Rudder Stock: removed, trued, thermal spray build up, machined to fit bearing & seal journal.
12. Replaced upper & lower rudder stock bearings.
13. Shipalt installation John Crane outer seal on rudder stocks. New Syntron seals upper bearing & upper halves of lower bearing.
14. Rudder fit to stock 60 percent or more. New key fabricated to fit rudder/stock assembly.

(Continued on sheet 14)

INSTRUCTIONS

GENERAL:

1. **From:** Enter reporting activity.
2. **Date:** Enter date of report.
3. **Place Docked:** Naval Shipyard, station, industrial activity drydock number.
4. **Docking Date:** Enter date ship drydocked.
5. **Undocking Date:** Enter date ship is undocked.
6. **Position No.:** Enter position number employed when ship is drydocked.
7. **Dist.: S.R.P. to aftmost keel block:** Enter distance from Stern Reference Point.
8. **Docking Plan No.:** List docking plan number and revision employed to drydock the ship.
9. **Plan Numbers for Zinc or Cathodic Protection:** Indicate applicable plan number for installation.
10. **Reasons for Docking:** State major reason for drydocking, i.e., pre-

List the propeller material as follows:
M – Manganese Bronze
N – Nickel Aluminum Bronze
A – Manganese Nickel Aluminum Bronze
S – Stainless Steel
P – Special (If special materials other than above are used, note under remarks.)

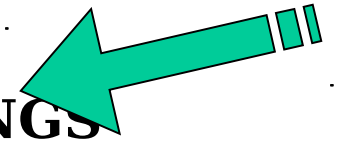
RUDDER AND DIVING PLANE DATA: Enter Post Diameter and Bearing Clearance for each rudder and diving plane as determined by measurement at time of docking. Take such rudder bearing clearances as are practicable without unshipping the rudder. Use R for rudder and D for diving planes. Use F and A to designate forward and aft where necessary. Divide port and starboard columns where necessary. Check rudder nut lock.

SONAR: Report dome type and serial number. The serial appears on the skirt and in the shipping orders.

REMARKS: Note when extensive repair or replacement of plates, seams, rivets, etc., is accomplished, including data concerning locations, actions and description of conditions which necessitated actions. Include any other information considered desirable for reference purposes, such as special block heights or other departures from docking plan. Attach additional sheets if required.

Dry-Docking Related Systems

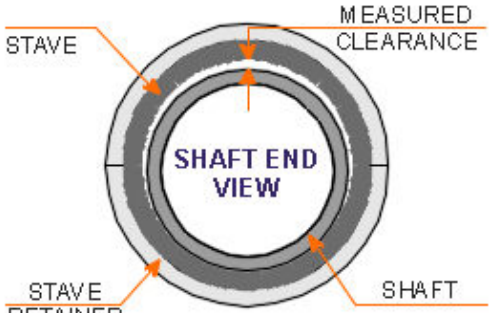
- TANKS / VOIDS
- SONAR DOME
- PROPULSION SHAFTING
- **WATERBORNE BEARINGS**
- PROPELLERS
- SEA VALVES
- RUDDER
- U/W HULL PAINT
- CATHODIC PROTECTION
- DEPARTURE FROM SPECS
- HULL PLATING AND SUPPORTING
  - STRUCTURE



BEARING CLEARANCE DATA
USS DETROIT AOE4

	TOP CLEARANCE		RETAINER CLEARANCE	
INSP DATE	07/15/93		10/30/98	
INSP ACT'Y	PNSY		PHOENIX MARINE INC.	
STBD SHAFT	FWD	AFT	FWD	AFT
STERN TUBE	0.104	0.093		0.234
INTERMD STRT	0.124	0.152		0.344
MAIN STRT	0.110		0.406	
PORT SHAFT	FWD	AFT	FWD	AFT
STERN TUBE		0.088		0.266
INTERMD STRT	0.115	0.089		0.344
MAIN STRT	0.150		0.328	

Top Clearance Diagram | Retainer Clearance Diagram



TOP CLEARANCE DIAGRAM

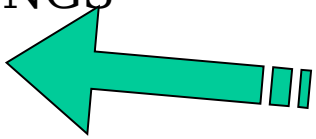
E: BLANK FIELD INDICATES DATA / AREA NOT ACCESSIBLE, ICABLE OR AVAILABLE

E: RETAINER CLEARANCE DATA IN YELLOW INDICATES CLEARANCE THAN 0.200"

RETURN

Dry-Docking Related Systems

- TANKS / VOIDS
- SONAR DOME
- PROPULSION SHAFTING
- WATERBORNE BEARINGS
- **PROPELLERS**
- SEA VALVES
- RUDDER
- U/W HULL PAINT
- CATHODIC PROTECTION
- DEPARTURE FROM SPECS
- HULL PLATING AND SUPPORTING
  - STRUCTURE

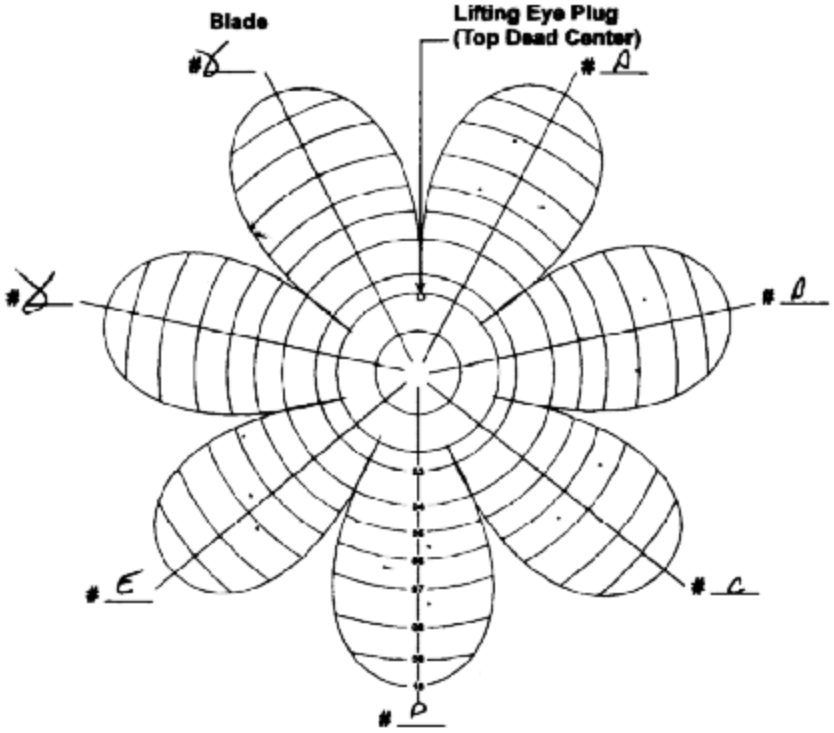


PROPELLER INSPECTION DATA

USS	HULL NO.	LOCATION	DATE
TICONDEROGA	CG-47	[illegible] PANAMA	02/16/01

☐ PORT ☒ STBD ☐ CENTERLINE ☐ INBD ☐ OUTBD

INDICATE ALL DAMAGE ON BLADES (i.e., BENDS, CRACKS, HEAVY EROSION, etc.)



PROPELLER INSPECTION RESULTS (AVERAGE ROUGHNESS ★)

BLADE NUMBER	1	2	3	4	5	6	7
PRE POLISH							
[illegible]							

Dry-Docking Related Systems

- TANKS / VOIDS
- SONAR DOME
- PROPULSION SHAFTING
- WATERBORNE BEARINGS
- PROPELLERS
- **SEA VALVES**
- RUDDER
- U/W HULL PAINT
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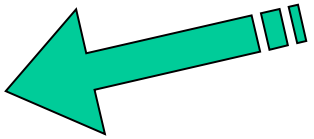
  - STRUCTURE

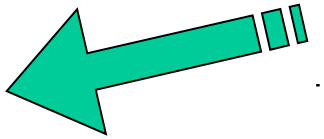


CONDITION BASED DRYDOCKING

SEA VALVE ASSESSMENT

Dry-Docking Related Systems

- TANKS / VOIDS
- SONAR DOME
- PROPULSION SHAFTING
- WATERBORNE BEARINGS
- PROPELLERS
- SEA VALVES
- **RUDDER**
- U/W HULL PAINT
- CATHODIC PROTECTION
- DEPARTURE FROM SPECS
- HULL PLATING AND SUPPORTING
  - STRUCTURE



Dry-Docking Related Systems

- TANKS / VOIDS
- SONAR DOME
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- WATERBORNE BEARINGS
- PROPELLERS
- SEA VALVES
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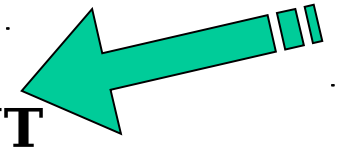
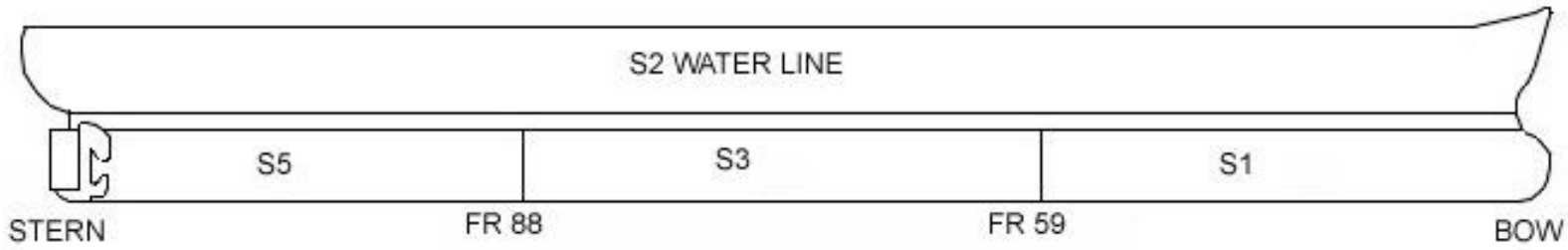
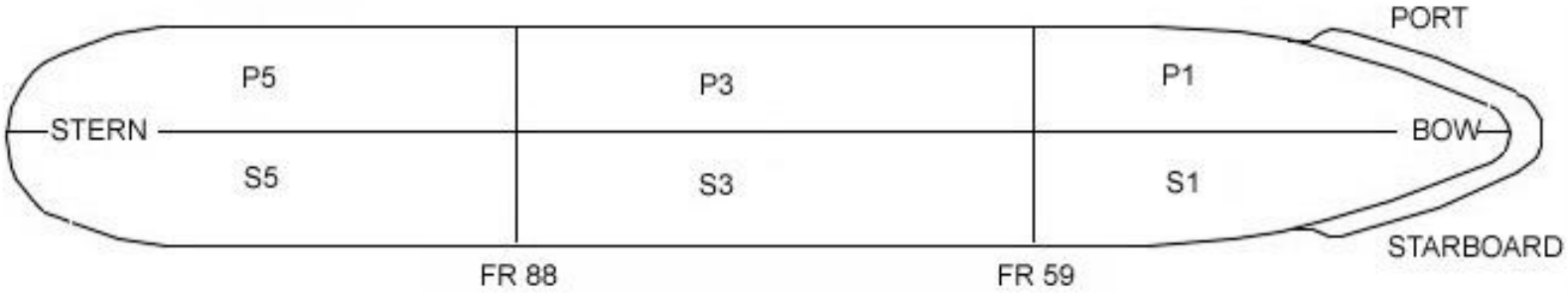


http://www.spear.navy.mil/snapshot/uw/dryfilm/dftzones/zlha1.HTM - Microsoft Internet Explorer provided by SUPSHIP Port...
File Edit View Go Favorites Help
Address http://www.spear.navy.mil/snapshot/uw/dryfilm/dftzones/zlha1.HTM

PAINT ZONES

LHA 1 CLASS DFT ZONE LAYOUT



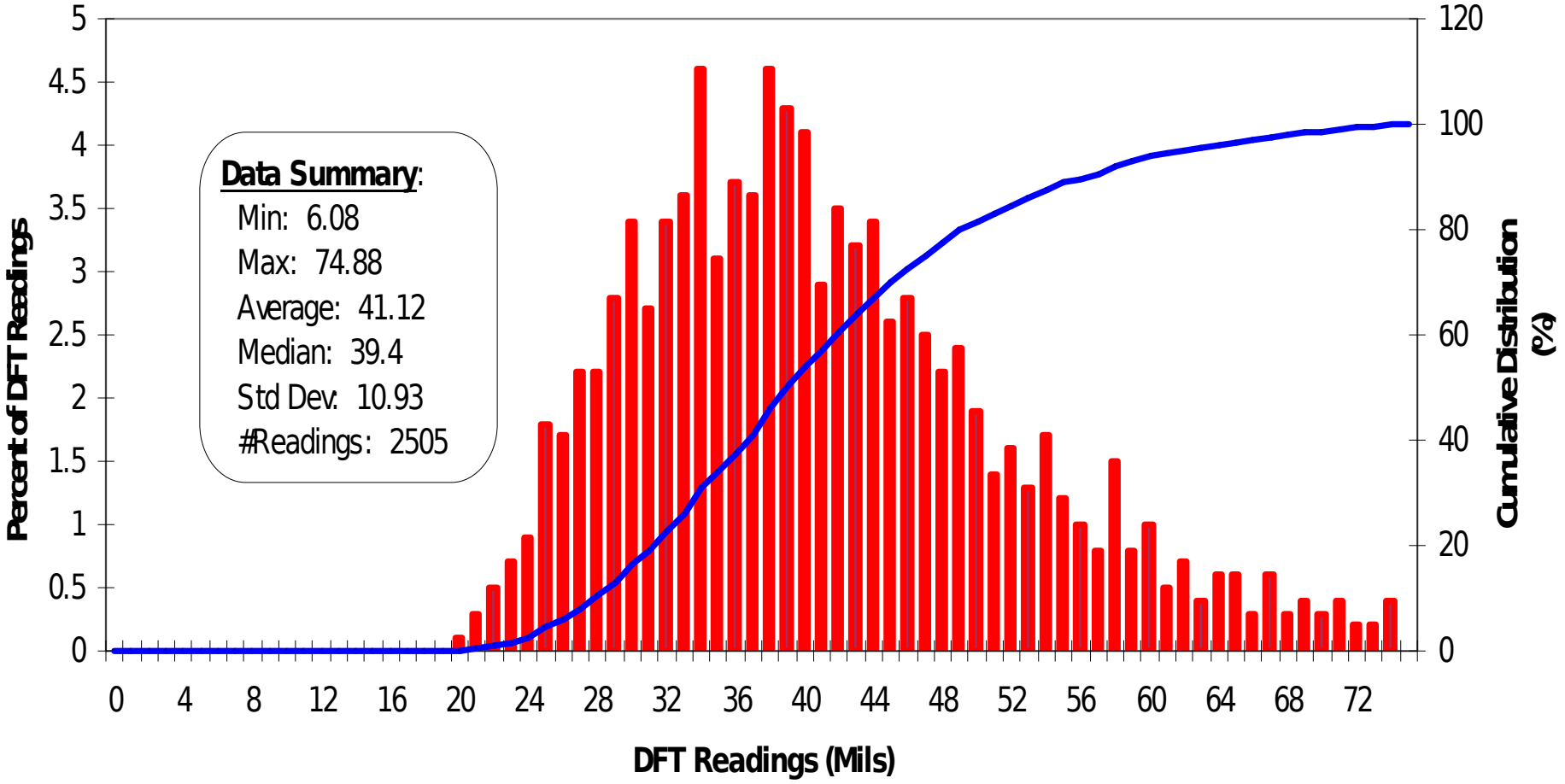


Internet zone

USS AUSTIN (LPD4) DFT Histogram [03/2000 Routine]

Hull: Composite (Port & Stbd)

(DFT Readings less than 75 mils)



Dry-Docking Related Systems

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- PROPELLERS
- SEA VALVES
- RUDDER
- U/W HULL PAINT
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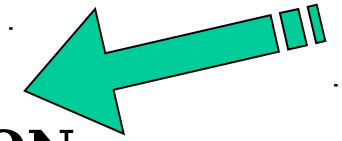
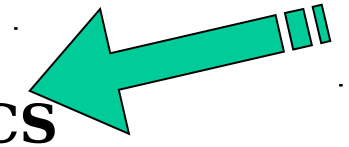
- DEPARTURE FROM SPECS
- HULL PLATING AND SUPPORTING
  - STRUCTURE



Dry-Docking Related Systems

- TANKS / VOIDS
- SONAR DOME
- PROPULSION SHAFTING
- WATERBORNE BEARINGS
- PROPELLERS
- SEA VALVES
- RUDDER
- U/W HULL PAINT
- CATHODIC PROTECTION
- **DEPARTURE FROM SPECS**
- HULL PLATING AND SUPPORTING
  - STRUCTURE



View Original DFS Message

Departure From Specification

DFS NBR	Hull	Shipname	ISIC	UIC
LPD40500	LPD4	AUSTIN	CPG2	07175

DFS STATUS FLAG	DEPARTURE TYPE	MAJOR/MINOR FLAG	DROPDATE
ACTIVE	TEMPORARY	1	01152 **

AUTHORIZED DTG	ACTIVITY	DEPMSG	CLRMSG
131545ZNOV00	USS EMORY S LAND	131101ZNOV00	

SYSTEM	EIC	ESWBS
NR1 MMR AMCW OVERBOARD PIPING		

CNSL COMMENT
FMA APPLIED A STEEL PATCH 2"X 6" PATCH USING A PORTION OF AN 8" SCHEDULE 40 PIPE WITH A WALL THICKNESS OF .332". NDT INSPECTIONS AND OPTEST SAT.
** DropDate has expired - This item needs to be updated

View Original DFS Message

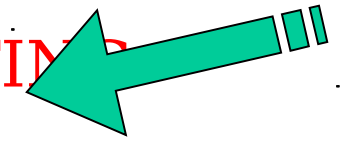
Departure From Specification

DFS NBR	Hull	Shipname	ISIC	UIC
LPD40598	LPD4	AUSTIN	CPG2	07175

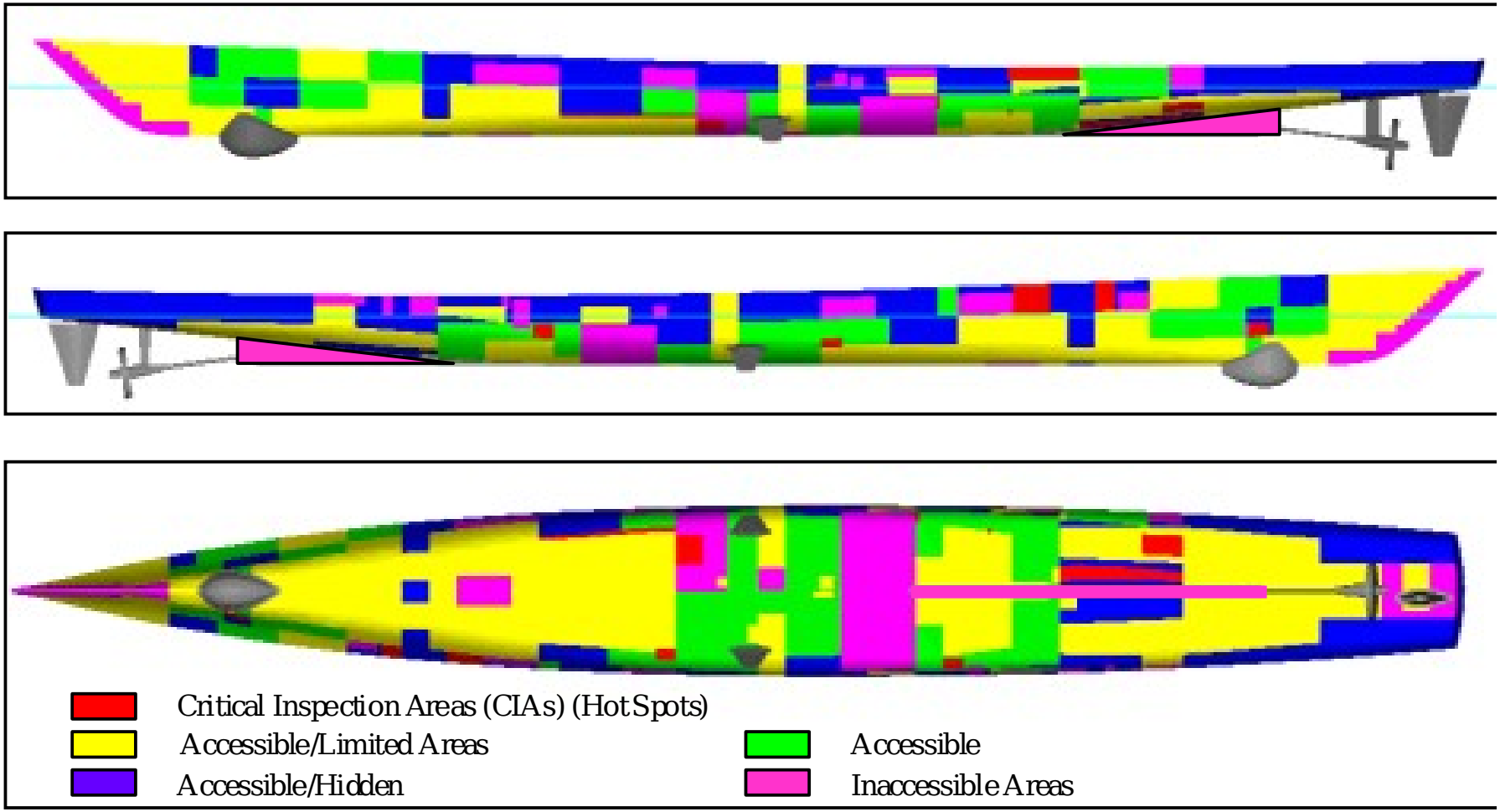
DFS STATUS FLAG	DEPARTURE TYPE	MAJOR/MINOR FLAG	DROPDATE
ACTIVE	TEMPORARY	1	

Dry-Docking Related Systems

- TANKS / VOIDS
- SONAR DOME
- PROPULSION SHAFTING
- WATERBORNE BEARINGS
- PROPELLERS
- SEA VALVES
- RUDDER
- U/W HULL PAINT
- CATHODIC PROTECTION
- DEPARTURE FROM SPECS
- HULL PLATING AND SUPPORTING
  - STRUCTURE



3D Model:
Internal Accessibility of Ship Structure vs CIAs for FFG 7 Class Ships



SYSTEM SELECTION MENU

USS DOYLE (FFG 39)

SNAPSHOTS

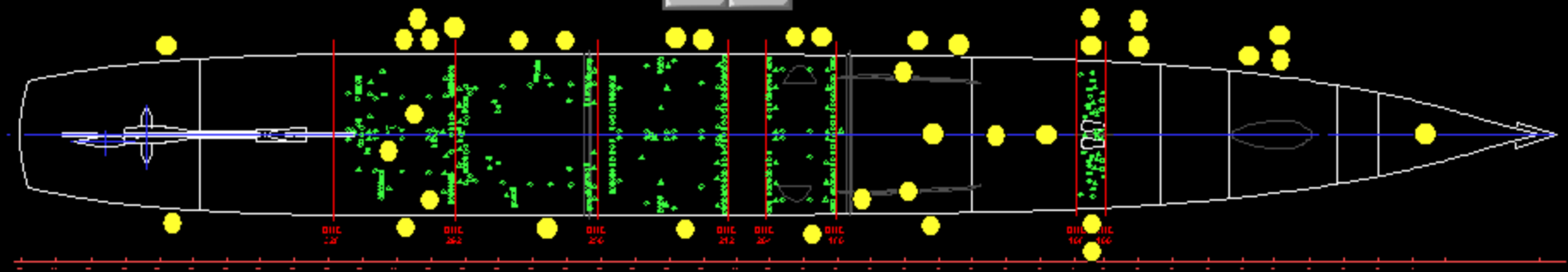
SUPSHIP PORTSMOUTH

- TANKS AND VOIDS
- HULL CLEANING
- UNDERWATER HULL
- UT OF MACH. SPACE BILGE PLATING
- CHT SYSTEM
-

Aperture - FFG39 - [SCANTLINGS]

File Edit Drawings Data View Window Scripts Help LinkTo

FFG 7 CLASS FLIGHTS
THIN HULL REPORT



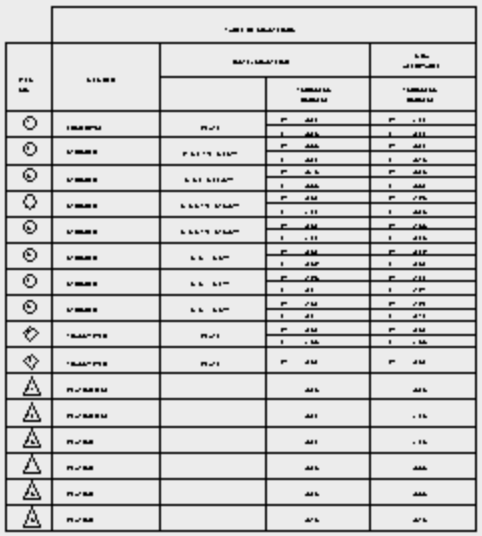
Using the LINKTO TOOL, click on a zone to display its table of scantlings. Click on a red bulkhead line to view its associated table

All Style--Unnamed 1 1pt 45 100% 0 Inspection Results

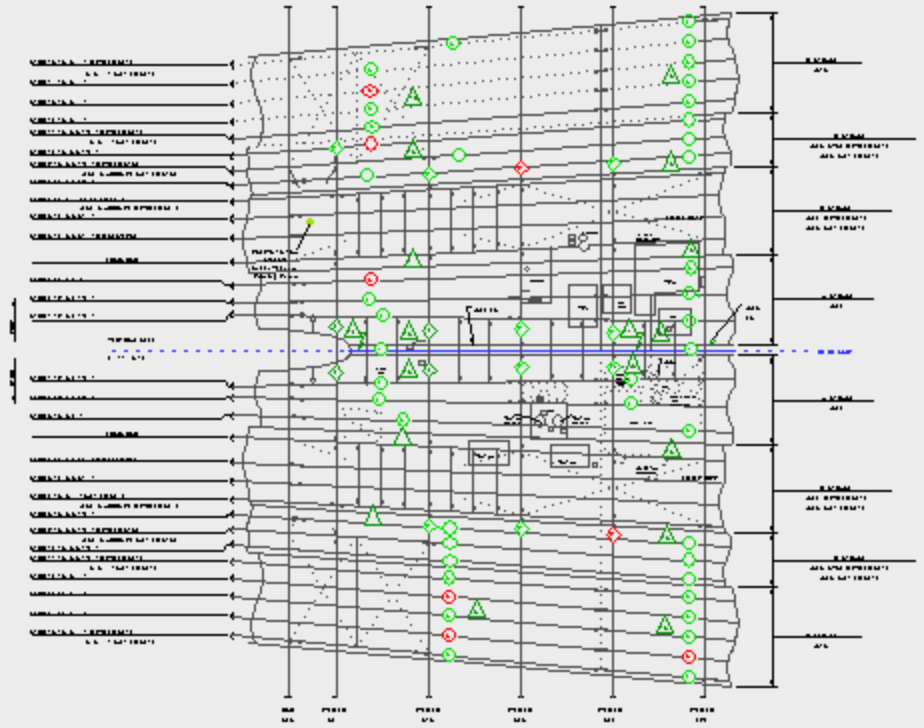
Aperture - FFG39 - [AUX MACH ROOM NO. 3]

File Edit Drawings Data View Window Scripts Help LinkTo

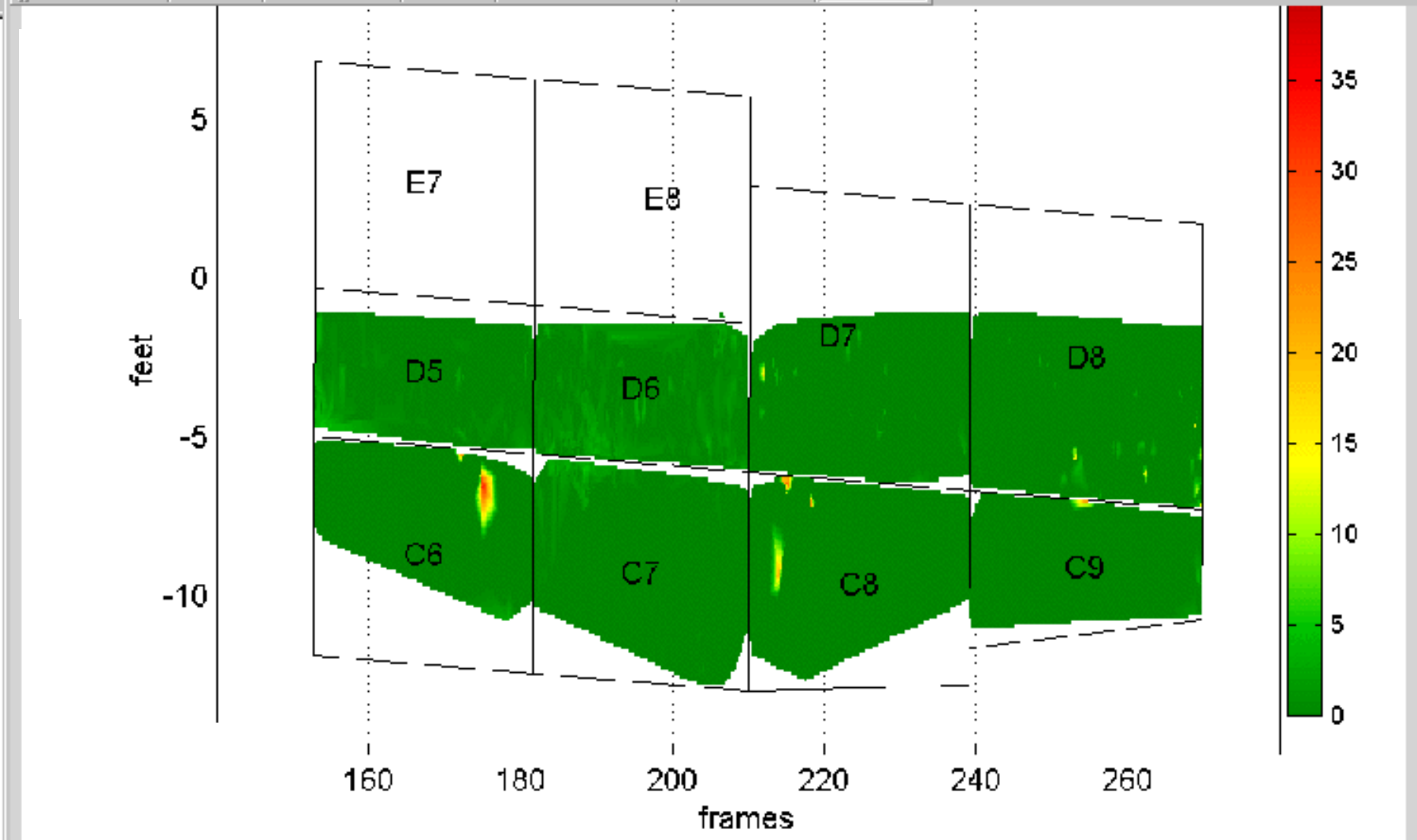
AUX MACHINERY ROOM NO. 3



NOTES



All | Style--Unnamed | 61 | Fine | 53 | None | 0 | TEST_LOC



Microsoft Photo Editor - dimgrid_cd.gif

File Edit View Image Effects Window Help

75%

Cursor: (706,232) Selection: 0,0:974,674 W,H: 975,675

1 object(s) selected 37.8KB

Other Data Research

- FMPMIS - Programmed ShipAlts
- 3M-History
- Ships CSMP

SUMMARY SHEET

PRELIMINARY MEETING	DATE:	5/15/01
	TDA:	Y
	MM:	Y
	CCBMM:	Y
RECOMMEND DRYDOCK	(Y/N):	Y
FINAL MEETING	DATE:	5/21/01
	TDO:	Y
	TDC:	Y
DECISION TO DRYDOCK	(Y/N):	Y

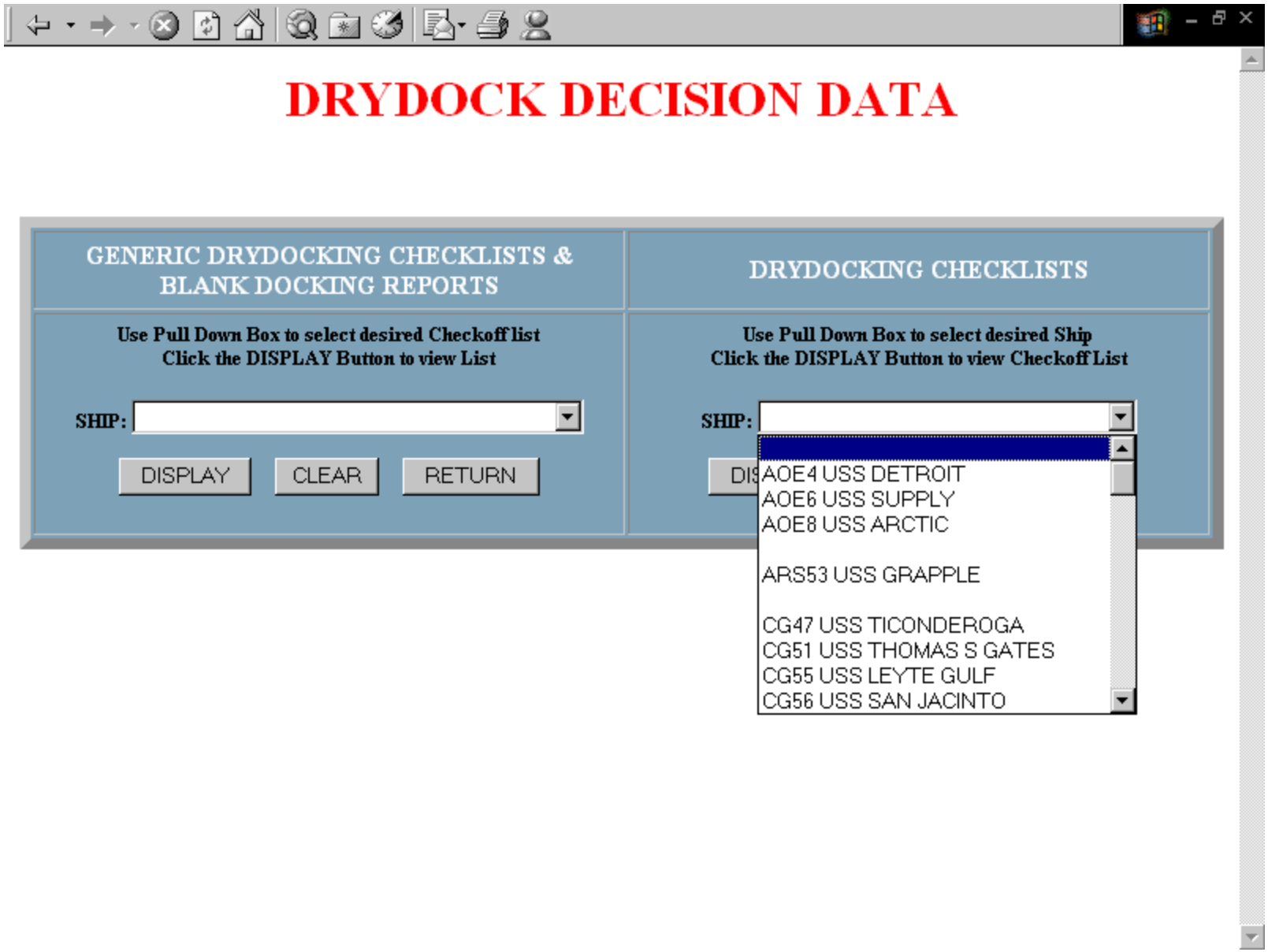
Remarks: Decision to dock is based primarily on shaft covering, tank, and anode problems (CNSL 212806Z MAY 01).

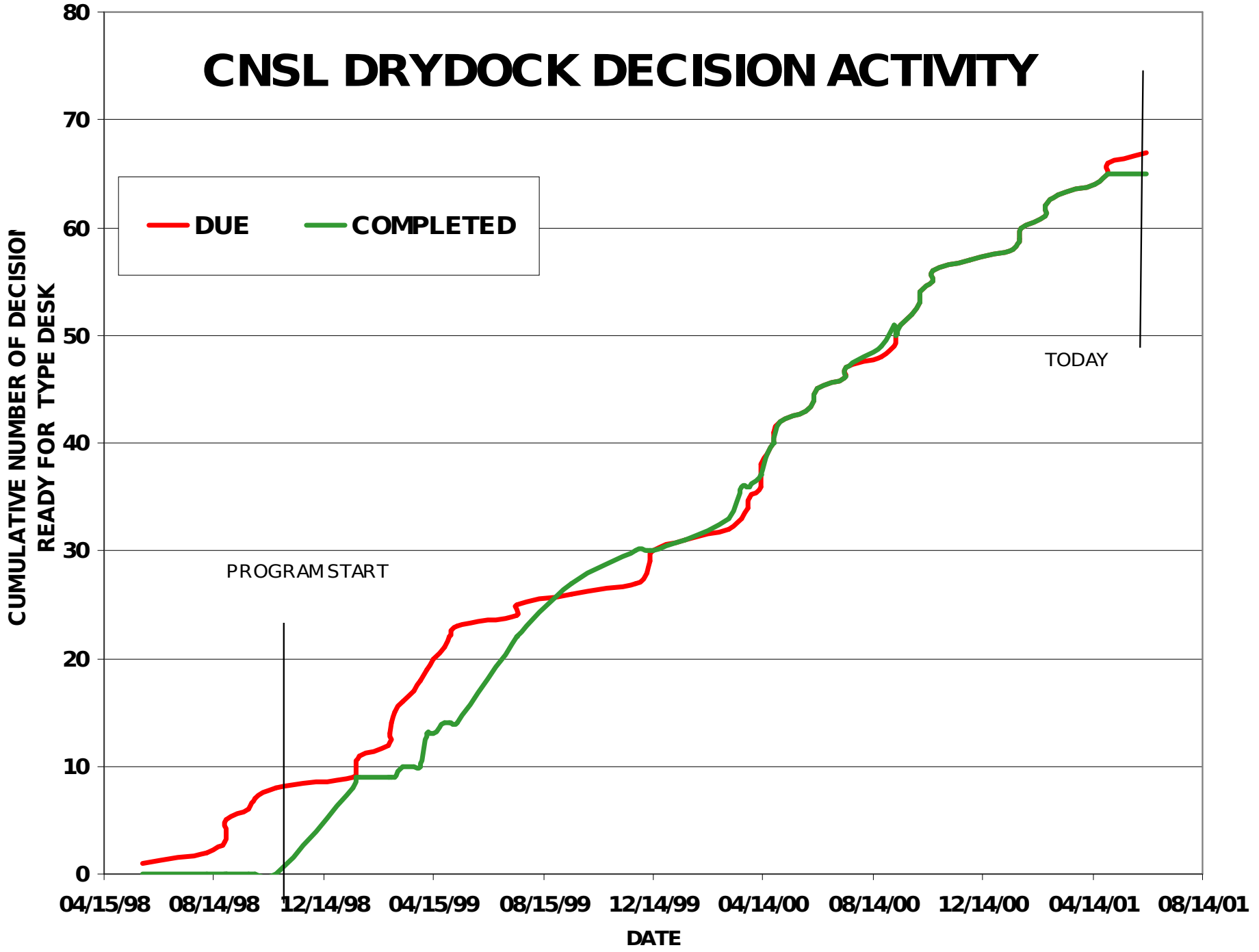
The following summarizes the drydocking status of this ship.

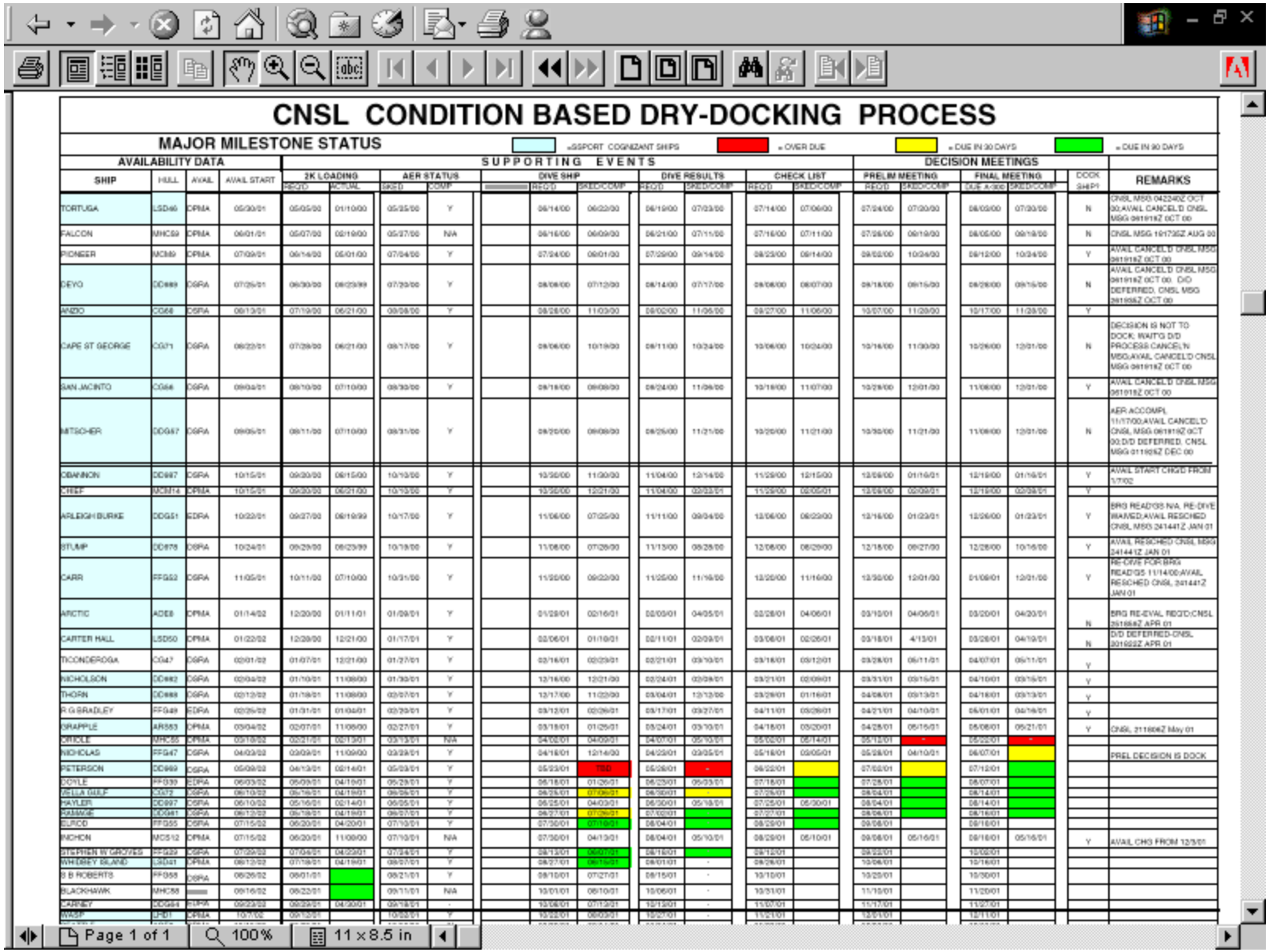
DOCKING DRIVERS

Component	Page No.	Is Drydocking Required now to correct?		Correct if Ship is Docked?		If Ship is not Docked, What is the Risk?
		Yes	No	Yes	No	
Waster Sleeves	2		x	x		Minimal
Propellers (CPP/CRP)	2		x	x		Minimal
Main Shafts/Covering	3	x		x		Moderate (Shaft sleeves)
Alterations	4		x	x		Minimal
Departure From Specifications	5		x			N/A

NON-DRIVERS


DRYDOCK DECISION DATA
GENERIC DRYDOCKING CHECKLISTS & BLANK DOCKING REPORTS
Use Pull Down Box to select desired Checkoff list
Click the DISPLAY Button to view List
SHIP:
DISPLAY
CLEAR
RETURN
DRYDOCKING CHECKLISTS
Use Pull Down Box to select desired Ship
Click the DISPLAY Button to view Checkoff List
SHIP:
AOE4 USS DETROIT
AOE6 USS SUPPLY
AOE8 USS ARCTIC
ARS53 USS GRAPPLE
CG47 USS TICONDEROGA
CG51 USS THOMAS S GATES
CG55 USS LEYTE GULF
CG56 USS SAN JACINTO


CNSL DRYDOCK DECISION ACTIVITY
DUE
COMPLETED
CUMULATIVE NUMBER OF DECISIO
READY FOR TYPE DESK
80
70
60
50
40
30
20
10
0
PROGRAM START
TODAY
04/15/98
08/14/98
12/14/98
04/15/99
08/15/99
12/14/99
04/14/00
08/14/00
12/14/00
04/14/01
08/14/01
DATE



CNSL CONDITION BASED DRY-DOCKING PROCESS

MAJOR MILESTONE STATUS

= SSPORT COGNIZANT SHIPS = OVER DUE = DUE IN 30 DAYS = DUE IN 90 DAYS

AVAILABILITY DATA				SUPPORTING EVENTS														DECISION MEETINGS					
				2K LOADING		AER STATUS		DIVE SHIP		DIVE RESULTS		CHECK LIST		PRELIM MEETING		FINAL MEETING		DOCK	
SHIP	HULL	AVAIL	AVAIL START	REQ'D	ACTUAL	SKED	COMP	REQ'D	SKED/COMP	REQ'D	SKED/COMP	REQ'D	SKED/COMP	REQ'D	SKED/COMP	DUE A-300	SKED/COMP	SHIP?	REMARKS
TORTUGA	LSD46	DPMA	05/30/01	05/05/00	01/10/00	05/25/00	Y		06/14/00	06/22/00	06/19/00	07/23/00	07/14/00	07/06/00	07/24/00	07/20/00	08/03/00	07/20/00	N	CNSL MSG 042240Z OCT 00;AVAIL CANCELL'D CNSL MSG 061918Z OCT 00
FALCON	MHC59	DPMA	06/01/01	05/07/00	02/19/00	05/27/00	NA		06/16/00	06/09/00	06/21/00	07/11/00	07/16/00	07/11/00	07/26/00	06/19/00	08/05/00	06/19/00	N	CNSL MSG 161736Z AUG 00
PIONEER	MCM9	DPMA	07/09/01	06/14/00	05/01/00	07/04/00	Y		07/24/00	08/01/00	07/29/00	09/14/00	08/23/00	08/14/00	08/02/00	10/24/00	09/12/00	10/24/00	Y	AVAIL CANCELL'D CNSL MSG 061918Z OCT 00
DEYO	DD989	DSRA	07/25/01	06/30/00	08/23/99	07/29/00	Y		08/08/00	07/12/00	08/14/00	07/17/00	08/08/00	08/07/00	08/18/00	08/15/00	08/28/00	08/15/00	N	AVAIL CANCELL'D CNSL MSG 061918Z OCT 00. D/D DEFERRED. CNSL MSG 261958Z OCT 00
ANZIO	CG68	DSRA	08/13/01	07/19/00	06/21/00	08/08/00	Y		08/28/00	11/03/00	09/02/00	11/06/00	09/27/00	11/06/00	10/07/00	11/29/00	10/17/00	11/29/00	Y	
CAPE ST GEORGE	CG71	DSRA	08/23/01	07/28/00	06/21/00	08/17/00	Y		08/08/00	10/19/00	08/11/00	10/24/00	10/06/00	10/24/00	10/16/00	11/30/00	10/26/00	12/01/00	N	DECISION IS NOT TO DOCK. WAITG D/D PROCESS CANCEL'N MSG;AVAIL CANCELL'D CNSL MSG 061918Z OCT 00
SAN JACINTO	CG56	DSRA	09/03/01	08/10/00	07/10/00	08/30/00	Y		08/18/00	08/08/00	08/24/00	11/06/00	10/18/00	11/07/00	10/28/00	12/01/00	11/08/00	12/01/00	Y	AVAIL CANCELL'D CNSL MSG 061918Z OCT 00
MITSCHER	DDG57	DSRA	09/05/01	08/11/00	07/10/00	08/31/00	Y		08/20/00	08/08/00	08/25/00	11/21/00	10/20/00	11/21/00	10/30/00	11/21/00	11/08/00	12/01/00	N	AER ACCOMPL 11/17/00;AVAIL CANCELL'D CNSL MSG 061918Z OCT 00.D/D DEFERRED. CNSL MSG 211926Z DEC 00
CBANNON	DD977	DSRA	10/15/01	09/20/00	08/15/00	10/13/00	Y		10/30/00	11/30/00	11/04/00	12/14/00	11/29/00	12/15/00	12/08/00	01/16/01	12/19/00	01/16/01	Y	AVAIL START CHGD FROM 1/7/02
CHIEF	MCM14	DPMA	10/15/01	09/20/00	08/21/00	10/13/00	Y		10/30/00	12/21/00	11/04/00	02/23/01	11/29/00	02/05/01	12/08/00	02/09/01	12/19/00	02/09/01	Y	
ARLEIGH BURKE	DDG51	DSRA	10/22/01	09/27/00	08/19/99	10/17/00	Y		11/06/00	07/25/00	11/11/00	09/04/00	12/06/00	08/22/00	12/16/00	01/23/01	12/26/00	01/23/01	Y	BRG READY;IS N/A. RE-DIVE WAIVED;AVAIL RESCHED CNSL MSG 241441Z JAN 01
STUMP	DD978	DSRA	10/24/01	09/29/00	08/23/99	10/19/00	Y		11/06/00	07/29/00	11/15/00	09/28/00	12/06/00	08/29/00	12/18/00	09/27/00	12/28/00	10/16/00	Y	AVAIL RESCHED CNSL MSG 241441Z JAN 01
CARR	FFG52	DSRA	11/05/01	10/11/00	07/10/00	10/31/00	Y		11/20/00	09/22/00	11/25/00	11/16/00	12/20/00	11/16/00	12/30/00	12/01/00	01/09/01	12/01/00	Y	RE-DIVE FOR BRG READYGS 11/14/00;AVAIL RESCHED CNSL 241441Z JAN 01
ARCTIC	AOE8	DPMA	01/14/02	12/20/00	01/11/01	01/09/01	Y		01/28/01	02/16/01	02/05/01	04/05/01	02/28/01	04/06/01	03/10/01	04/06/01	03/20/01	04/20/01	N	BRG RE-EVAL REQ'D;CNSL 251886Z APR 01
CARTER HALL	LSD50	DPMA	01/22/02	12/28/00	12/21/00	01/17/01	Y		02/06/01	01/10/01	02/11/01	02/09/01	03/06/01	02/26/01	03/18/01	4/13/01	03/28/01	04/19/01	N	D/D DEFERRED-CNSL 301922Z APR 01
TICONDEROGA	CG47	DSRA	02/01/02	01/07/01	12/21/00	01/27/01	Y		02/16/01	02/23/01	02/21/01	03/10/01	03/16/01	03/12/01	03/28/01	05/11/01	04/07/01	05/11/01	Y	
NICHOLSON	DD982	DSRA	02/04/02	01/10/01	11/08/00	01/30/01	Y		12/16/00	12/21/00	02/24/01	02/09/01	03/21/01	02/09/01	03/31/01	03/15/01	04/10/01	03/15/01	Y	
THORN	DD988	DSRA	02/13/02	01/16/01	11/08/00	02/07/01	Y		12/17/00	11/02/00	03/04/01	12/12/00	03/28/01	01/16/01	04/06/01	03/13/01	04/18/01	03/13/01	Y	
R G BRADLEY	FFG49	EDRA	02/25/02	01/31/01	01/04/01	02/20/01	Y		03/12/01	02/26/01	03/17/01	03/27/01	04/11/01	03/26/01	04/21/01	04/10/01	05/01/01	04/16/01	Y	
GRAPPLE	ARS53	DPMA	03/04/02	02/07/01	11/08/00	02/27/01	Y		03/19/01	01/25/01	03/24/01	03/10/01	04/18/01	03/20/01	04/28/01	05/16/01	05/08/01	05/21/01	Y	CNSL 211806Z May 01
CIRCLE	MHC55	DPMA	03/18/02	02/21/01	02/13/01	03/13/01	NA		04/02/01	04/09/01	04/07/01	05/10/01	05/02/01	05/14/01	05/12/01	-	05/22/01	-		
NICHOLAS	FFG47	DSRA	04/02/02	03/09/01	11/09/00	03/29/01	Y		04/19/01	12/14/00	04/23/01	03/05/01	05/18/01	03/05/01	05/28/01	04/10/01	06/07/01			PREL DECISION IS DOCK
PETERSON	DD969	DSRA	05/09/02	04/13/01	02/14/01	05/03/01	Y		05/23/01	TBD	05/26/01	-	06/22/01		07/02/01		07/12/01			
DOYLE	FFG39	EDRA	05/03/02	05/09/01	04/10/01	05/29/01	Y		06/18/01	01/26/01	06/25/01	05/03/01	07/16/01		07/26/01		08/07/01			
STELLA GULF	CG72	DSRA	06/10/02	05/16/01	04/19/01	06/06/01	Y		06/25/01	07/09/01	06/30/01		07/25/01		08/04/01		08/14/01			
HAYLER	DD997	DSRA	06/10/02	05/16/01	02/14/01	06/05/01	Y		06/25/01	04/03/01	06/30/01	05/18/01	07/25/01	05/30/01	08/04/01		08/14/01			
SAMMIE	DDG67	DSRA	06/13/02	05/19/01	04/19/01	06/27/01	Y		06/27/01	07/26/01	07/02/01		07/27/01		08/06/01		08/16/01			
EUROD	FFG53	DSRA	07/15/02	06/20/01	04/20/01	07/10/01	Y		07/30/01	07/16/01	08/04/01		08/29/01		09/06/01		09/16/01			
MCHON	MCS12	DPMA	07/15/02	06/20/01	11/09/00	07/10/01	NA		07/30/01	04/13/01	08/04/01	05/10/01	08/29/01	05/10/01	09/06/01	05/16/01	09/16/01	05/16/01	Y	AVAIL CHG FROM 12/3/01
STEPHEN W GROVES	FFG29	DSRA	07/29/02	07/06/01	04/23/01	07/24/01	Y		08/13/01	08/07/01	08/16/01	-	08/12/01		08/22/01		10/02/01			
WHIDBEY ISLAND	LSD41	DPMA	08/12/02	07/18/01	04/19/01	08/07/01	Y		08/27/01	09/13/01	08/01/01	-	08/26/01		10/04/01		10/16/01			
S B ROBERTS	FFG55	DSRA	08/26/02	08/01/01		08/21/01	Y		08/10/01	01/27/01	08/15/01	-	10/15/01		10/25/01		10/30/01			
BLACKHAWK	MHC58		09/16/02	08/22/01		09/11/01	NA		10/01/01	08/10/01	10/06/01	-	10/31/01		11/15/01		11/20/01			
CARNEY	DDG64	DSRA	09/23/02	09/29/01	04/30/01	09/18/01	-		10/08/01	07/13/01	10/12/01	-	11/07/01		11/17/01		11/27/01			
WASP	LHD1	DPMA	10/7/02	09/12/01		10/02/01	Y		10/22/01	08/03/01	10/27/01	-	11/21/01		12/01/01		12/11/01			

Page 1 of 1 100% 11 x 8.5 in

USS CARNEY SHIP MAINTENANCE MILESTONES

Report Date: 5-Jan-02

START DATE: 01/15/03 **COMPLI PLACT: SBATH**

P E: JOE MARQUES ISIC: COMDE **TDO: LT H. JONES**

HOMEPORT: MAYPT

Events	Responsible	Target	Notional	REV	COMP
LOAD CONDITION BASED DD 2-KILOS	SPORT	A-390	21-Dec-01		30-Apr-01
CONDUCT C5RA ASSESSMENT	CNSL/SHIP	A-370	10-Jan-02	29-Oct-01	29-Oct-01
CONDUCT SEMAT II ASSESSMENT	CNSL/SHIP	A-370	10-Jan-02	29-Oct-01	29-Oct-01
CONDUCT MID-CYCLE MAINT REVIEW(D-60)	CNSL TDO	A-300	21-Mar-02	10-Jan-02	TODAY
DETERMINE DRYDOCKING REQMTS (D-60)	CNSL TDO	A-300	21-Mar-02		
DETERMINE AVAILABILITY TYPE (D-45)	CNSL TDO	A-285	5-Apr-02		
REVIEW/LOAD/SCREEN TYCOM ROUTINES (D-30)	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN NON-ASSESSABLE ICMP (D	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN D/E/F ALTS (D-90)	CNSL/TDO/SPORT	A-270	22-Apr-02		
CONDUCT SEMAT III AND ZONE INSP (R-90)	SPORT/SHIP/MM	A-135	2-Sep-02		

USS CARNEY SHIP MAINTENANCE MILESTONES

Report Date: 5-Jan-02

START DATE: 01/15/03 **COMPLI PLACT: SBATH**

P E: JOE MARQUES ISIC: COMDE **TDO: LT H. JONES**

HOMEPORT: MAYPT

Events	Responsible	Target	Notional	REV	COMP
LOAD CONDITION BASED DD 2-KILOS	SPORT	A-390	21-Dec-01		30-Apr-01
CONDUCT C5RA ASSESSMENT	CNSL/SHIP	A-370	10-Jan-02	29-Oct-01	29-Oct-01
CONDUCT SEMAT II ASSESSMENT	CNSL/SHIP	A-370	10-Jan-02	29-Oct-01	29-Oct-01
CONDUCT MID-CYCLE MAINT REVIEW(D-60)	CNSL TDO	A-300	21-Mar-02	10-Jan-02	TODAY
DETERMINE DRYDOCKING REQMTS (D-60)	CNSL TDO	A-300	21-Mar-02		
DETERMINE AVAILABILITY TYPE (D-45)	CNSL TDO	A-285	5-Apr-02		
REVIEW/LOAD/SCREEN TYCOM ROUTINES (D-30)	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN NON-ASSESSABLE ICMP (D	MM/SPORT	A-270	22-Apr-02		
REVIEW/LOAD/SCREEN D/E/F ALTS (D-90)	CNSL/TDO/SPORT	A-270	22-Apr-02		
CONDUCT SEMAT III AND ZONE INSP (R-90)	SPORT/SHIP/MM	A-135	2-Sep-02		

ALL AVAILABILITY REQUIREMENTS ARE LOADED via RADCOM To RMAIS

+ AIT /SPAWAR

Russ Knights SPORT Code 220.2

757-397-4001 ext 2180

START DATE: 01/15/03			COMPLETION DATE: SEPTEMBER			
PE: JOE MARQUES			ISIC COMMODITY: TIDO: LT H JONES			
HOMEPORT: MAYPT						
Events		**Responsible**	**Target**	**Notional**	**REV**	**COMP**
LOAD CONDITION BASED DD 2-KILOS		SPORT	A-390	21-Dec-01		30-Apr-01
CONDUCT C5RA ASSESSMENT		CNSI/SHIP	A-370	10-Jan-02	29-Oct-01	29-Oct-01
CONDUCT SEMAT I ASSESSMENT		CNSI/SHIP	A-370	10-Jan-02	29-Oct-01	29-Oct-01
CONDUCT MID-CYCLE MAINT REVIEW (D-60)		CNSL TIDO	A-300	21-Mar-02	10-Jan-02	TODAY
DETERMINE DRYDOCKING REQMTS (D-60)		CNSL TIDO	A-300	21-Mar-02		
DETERMINE AVAILABILITY TYPE (D-45)		CNSL TIDO	A-285	5-Apr-02		
REVIEW LOAD/SCREEN TYCOM ROUTINES (D-30)		MM/SPORT	A-270	22-Apr-02		
REVIEW LOAD/SCREEN NON-ASSESSABLE ICMP (D		MM/SPORT	A-270	22-Apr-02		
REVIEW LOAD/SCREEN DEFERRALS (D-90)		CNSL/TIDO/SPORT	A-270	22-Apr-02		
COMPLETION 2K GENERATE AND UPLINE		SPORT/SHIP/MM	C-90			

Code 222
CCBMM Support/Completion 2 Kilo Branch

- Upload Depot Completion Data to 3-M History (2 People)
  - Compile schedule depot availability costs and description of completed work
  - Allocate original award costs and subsequent growth and work costs to appropriate equipment, systems or hull.
  - Document costs in 3-M for analysis of depot maintenance costs and development of notional work packages.
- CCBMM Support Group Help perform CCBMM functions

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Address http://www.spear.navy.mil/

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- Mission
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- Suppliers
- Guiding Directives
- Process
- Measures and Data
- Schedules
- Funding
- Advisories
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HOME

Welcome...

to COMNAVSURFLANT Maintenance

Teamwork

Worlds Greatest Maintenance Team!!!

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Address http://www.spear.navy.mil/snapshot/snap01.htm

SEMAT I & SEMAT II

Teamwork

THIS WEB SITE BEST VIEWED WITH MICROSOFT INTERNET EXPLORER

A Process to systematically collect and analyze data, including video images, dealing with material condition of "static systems;" to identify necessary maintenance requirements, including trend analysis; and to produce required maintenance documentation in the 3M and AUTOSPEC systems as a module of ICAS. There are currently eight systems in the SEMAT I & II SYSTEM DIRECTORY

Return

Internet zone

http://www.spear.navy.mil/project10/tankfile/tankpictures.asp - Microsoft Internet Explorer provided by SUPSHIP Portsmouth

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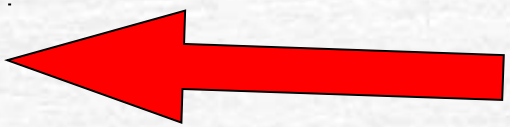
Address http://www.spear.navy.mil/project10/tankfile/tankpictures.asp

CSMP SUPPLEMENTAL INFORMATION

CG64 GETTYSBURG

Select By LOCATION



OR

Select By JSN

SELECT ANOTHER SHIP

Internet zone

http://www.spear.navy.mil/project10/tankfile/C_TanksW.asp - Microsoft Internet Explorer provided by SUPSHIP Portsmouth

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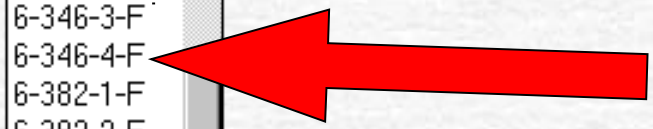
Address http://www.spear.navy.mil/project10/tankfile/C_TanksW.asp

CSMP SUPPLEMENTAL INFORMATION

SELECT LOCATION

- 6-300-1-F
- 6-300-2-F
- 6-346-1-F
- 6-346-2-F
- 6-346-3-F
- 6-346-4-F
- 6-382-1-F
- 6-382-2-F
- 6-382-3-F
- 6-382-4-F
- 6-394-1-J



Internet zone

http://www.spear.navy.mil/project10/tankfile/ldate_page.asp - Microsoft Internet Explorer provided by SUPSHIP Portsmouth

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Address http://www.spear.navy.mil/project10/tankfile/ldate_page.asp

USS GERMANTOWN (LSD-42) 21639 ER01-P186
6-98-01-W BALLAST TANK, CORROSION ON AFT BHD

Internet zone

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File Edit View Go Favorites Help Address http://musrv.spear.navy.mil/scripts/spserver/apercgi.dll

Aperture SMARTPICTURES

Pick project..

Window Size

VeryLarge

- TANKS AND VOIDS
- CLASS PROFILE
- DOCKING PLAN

Internet zone

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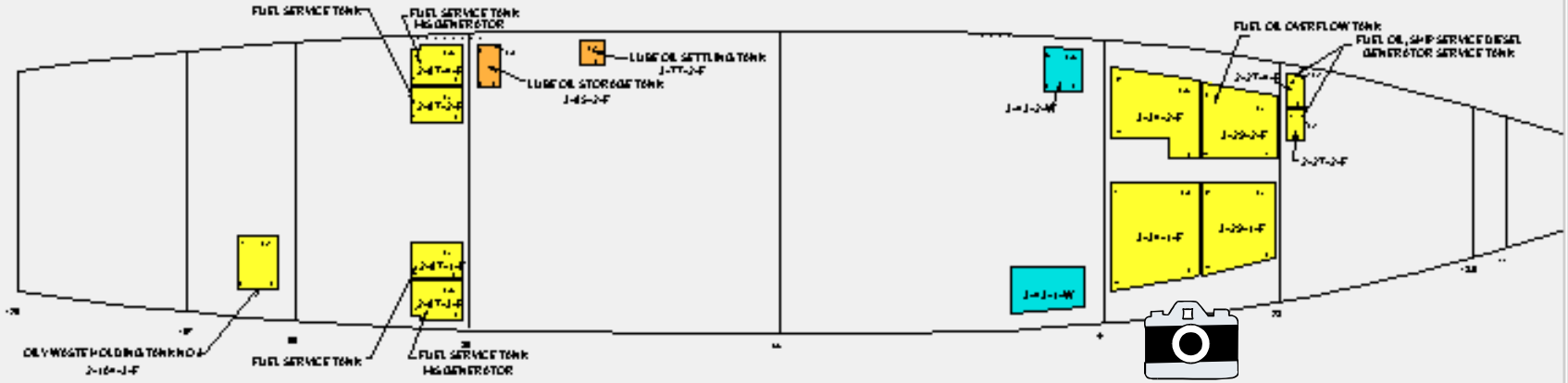
File Edit View Go Favorites Help Address http://musrv.spear.navy.mil/scripts/spserver/apercgi.dll

MCM-1 CLASS

TANK LAYOUT


FUEL SERVICE TANK
FUEL SERVICE TANK
LUBE OIL SETTLING TANK
LUBE OIL STORAGE TANK
FUEL OIL OVERFLOW TANK
FUEL OIL, SHIP SERVICE DIESEL GENERATOR SERVICE TANK
FUEL SERVICE TANK
FUEL SERVICE TANK

LIQUID LOADING

KEY

POTABLE WATER

FUEL OIL SERVICE

LUBE OIL SERVICE

JP-5

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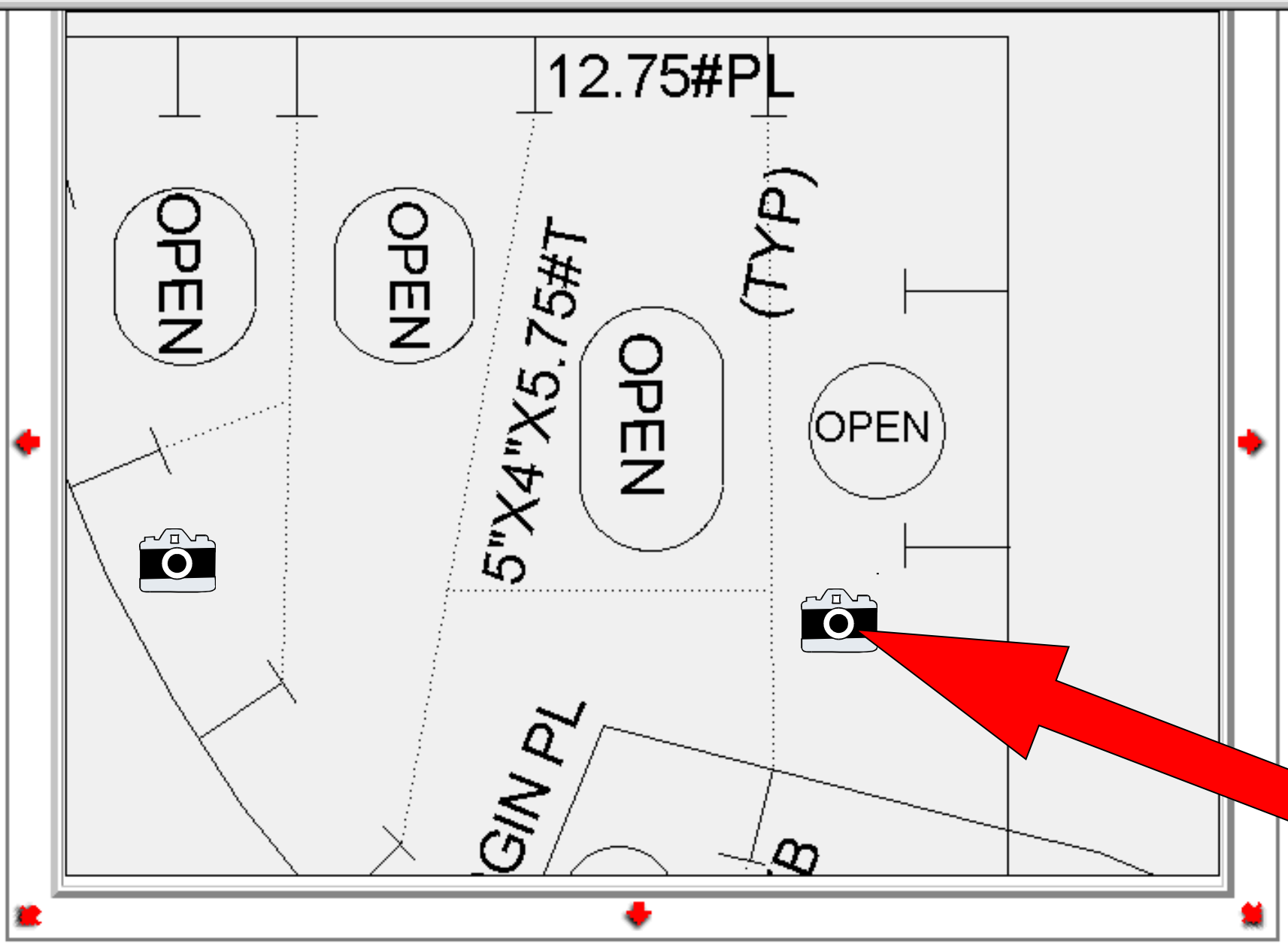


Internet zone

CNSL TANK and VOID PROGRAM

Maintain the Paint not the Steel! It's **Cheaper$**

Mike Tobin SPORT C220.3

757-396-4001 EXT 2215

CNSL Tank Management Process

http://www.spear.navy.mil/snapshot/SNAP02.HTM

John Grawl C/220
E. Mike Tobin C/220.3
SUPSHIP Portsmouth, VA

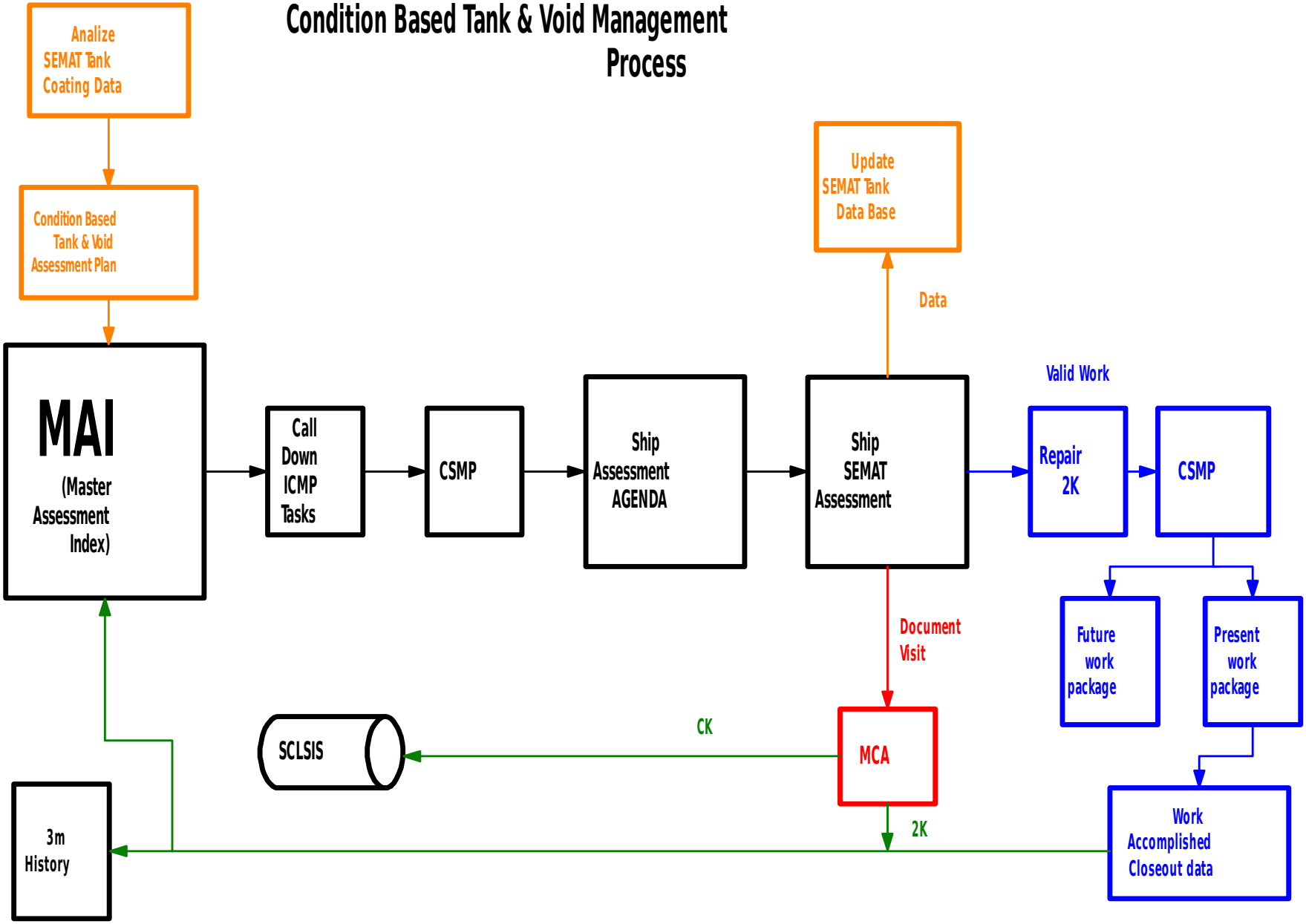
Why Centrally Manage Tanks

- Predictive scheduling of painting based on sound engineering judgment results in
  - Just in time painting
  - Replacement of paint not steel
  - Conditioned based process
  - Lower life-cycle costs

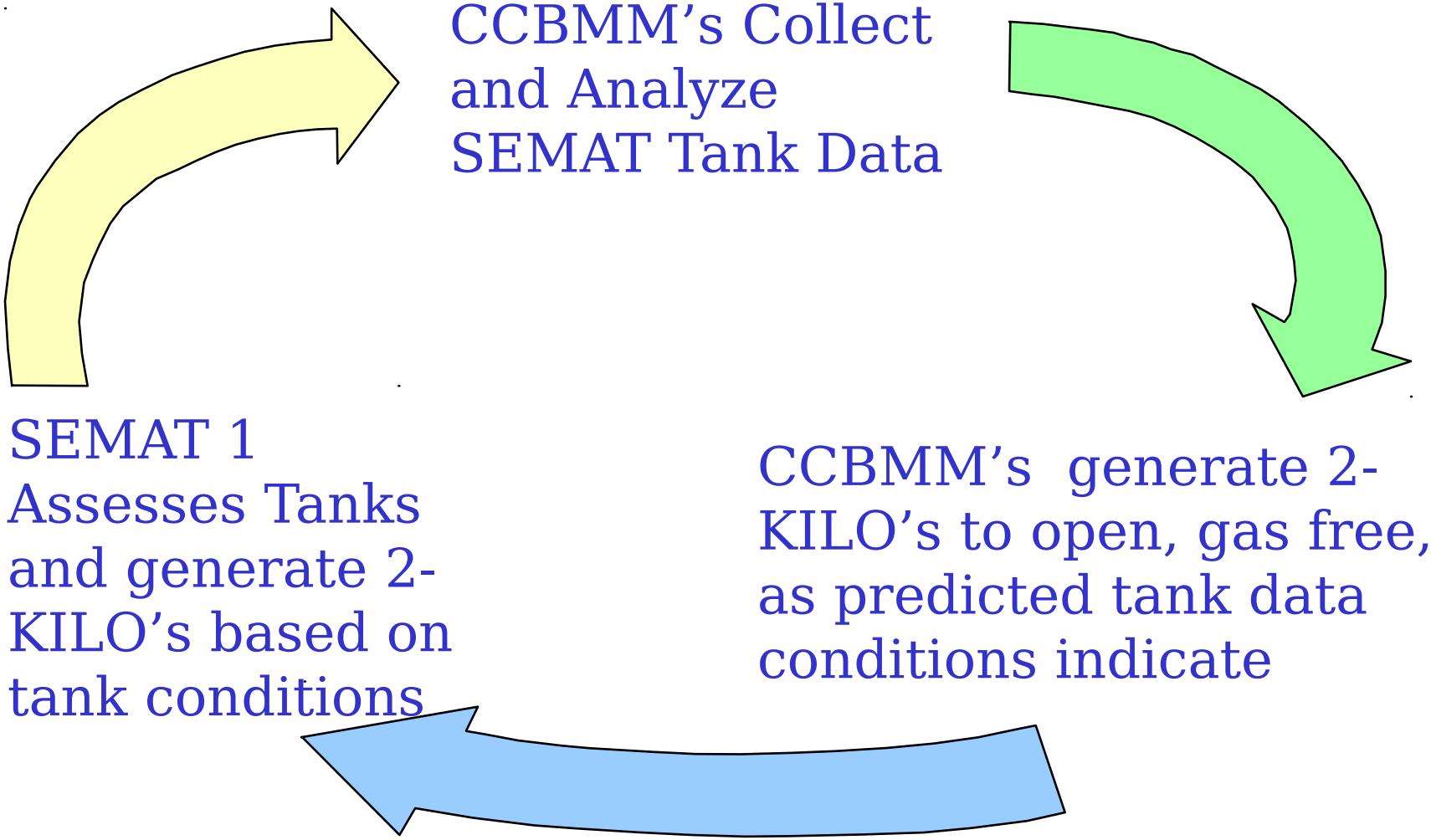
What Is Required to Manage Tanks

- Tank Condition Data
- Qualified/ Certified Inspectors. CNSL has chosen the standards set by National Association of Corrosion Engineers (NACE)
- Same personnel performing inspections ensures
  - Consistent Assessment
  - Repeatable Data
- Tank condition data collected, analyzed and acted on by CCBMM's

Condition Based Tank & Void Management Process



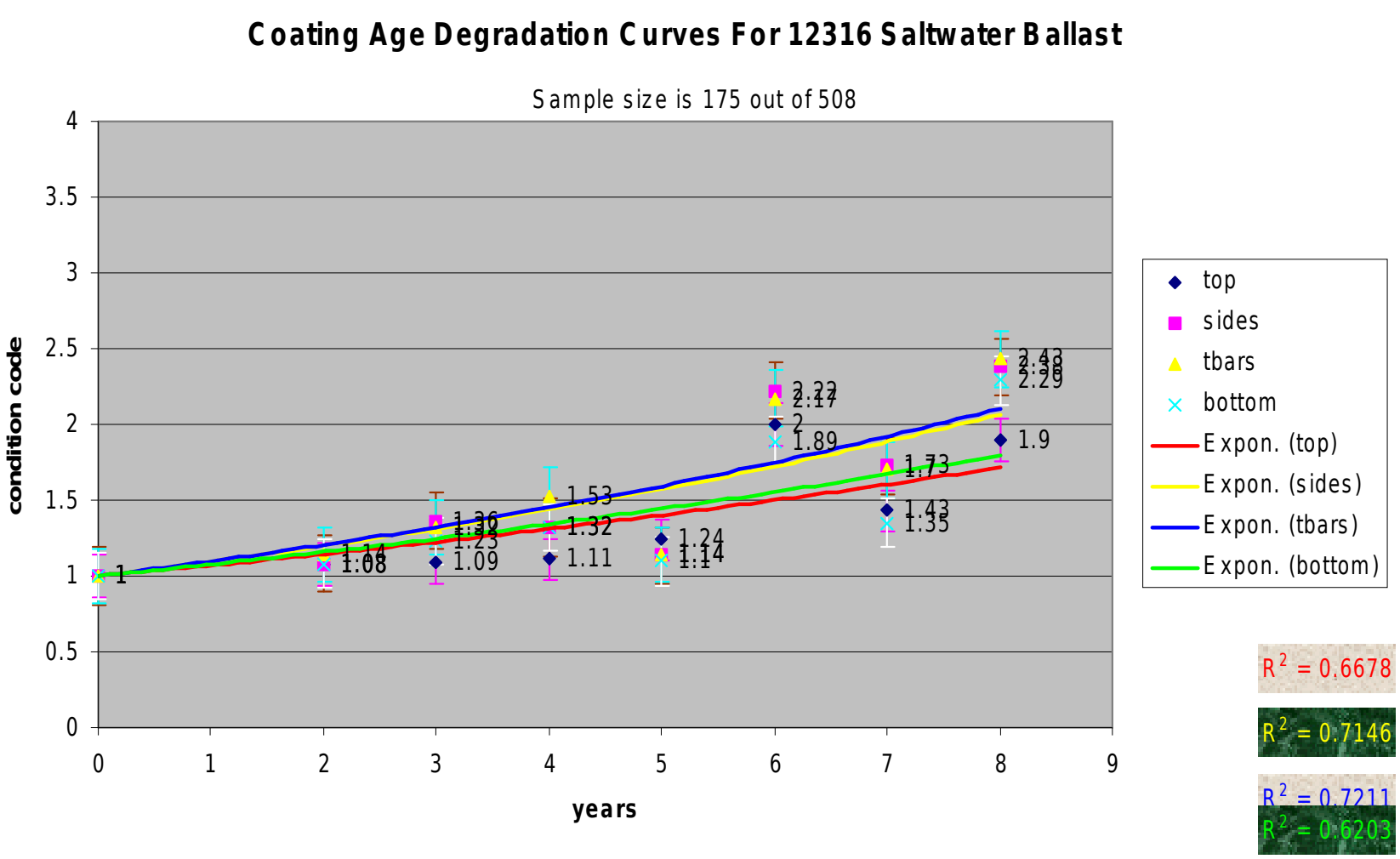
The Process


CCBMM's Collect and Analyze SEMAT Tank Data
CCBMM's generate 2-KILO's to open, gas free, as predicted tank data conditions indicate
SEMAT 1 Assesses Tanks and generate 2-KILO's based on tank conditions

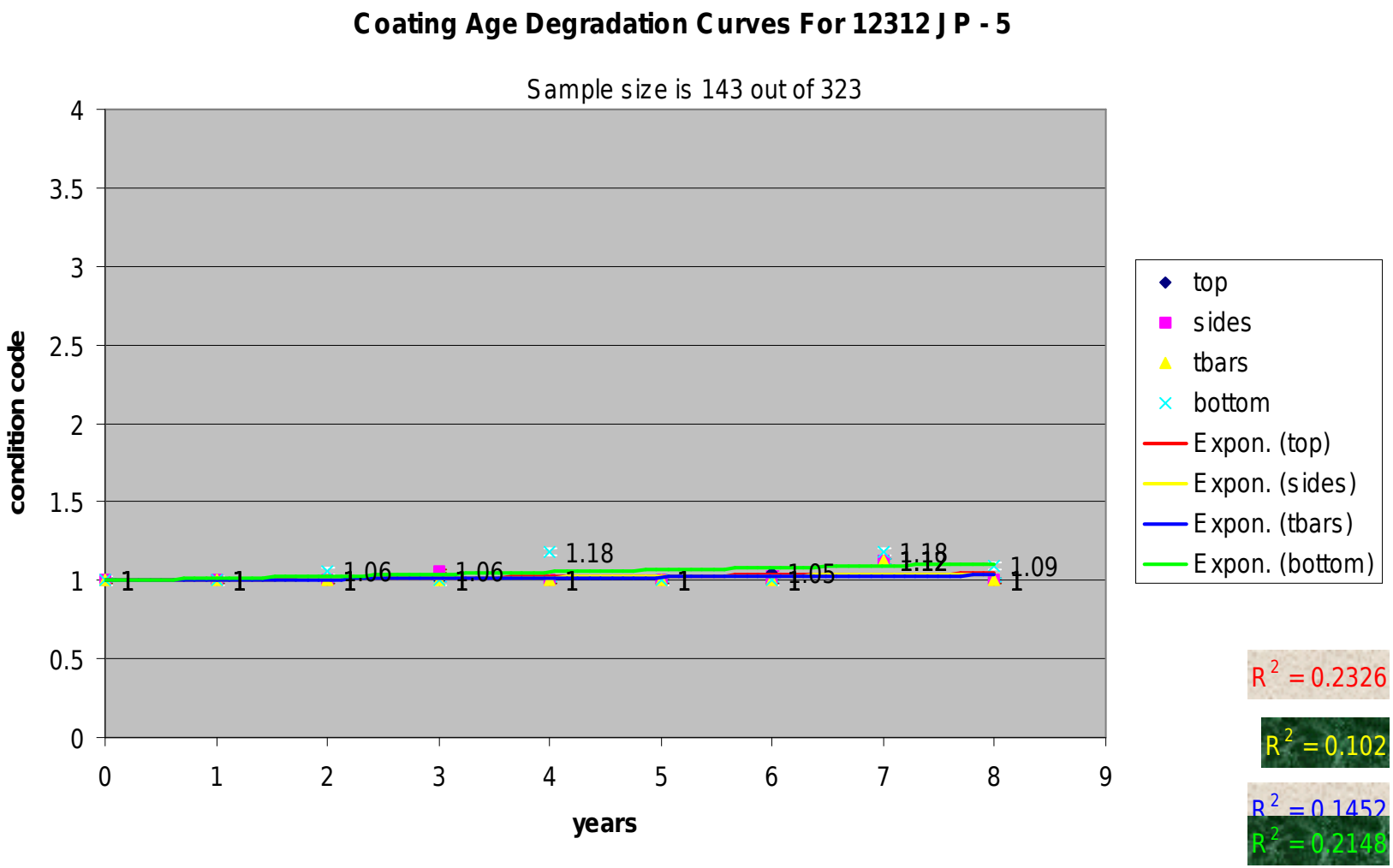
Tank Data Analysis

- Collected tank data is used to produce statistically accurate age degradation curves by type of tank service
- Analysis is predictive
- Analysis is forward looking based on statistical sampling, and sound engineering judgment
- Coating replacement intervals extended as Tank process becomes conditioned based

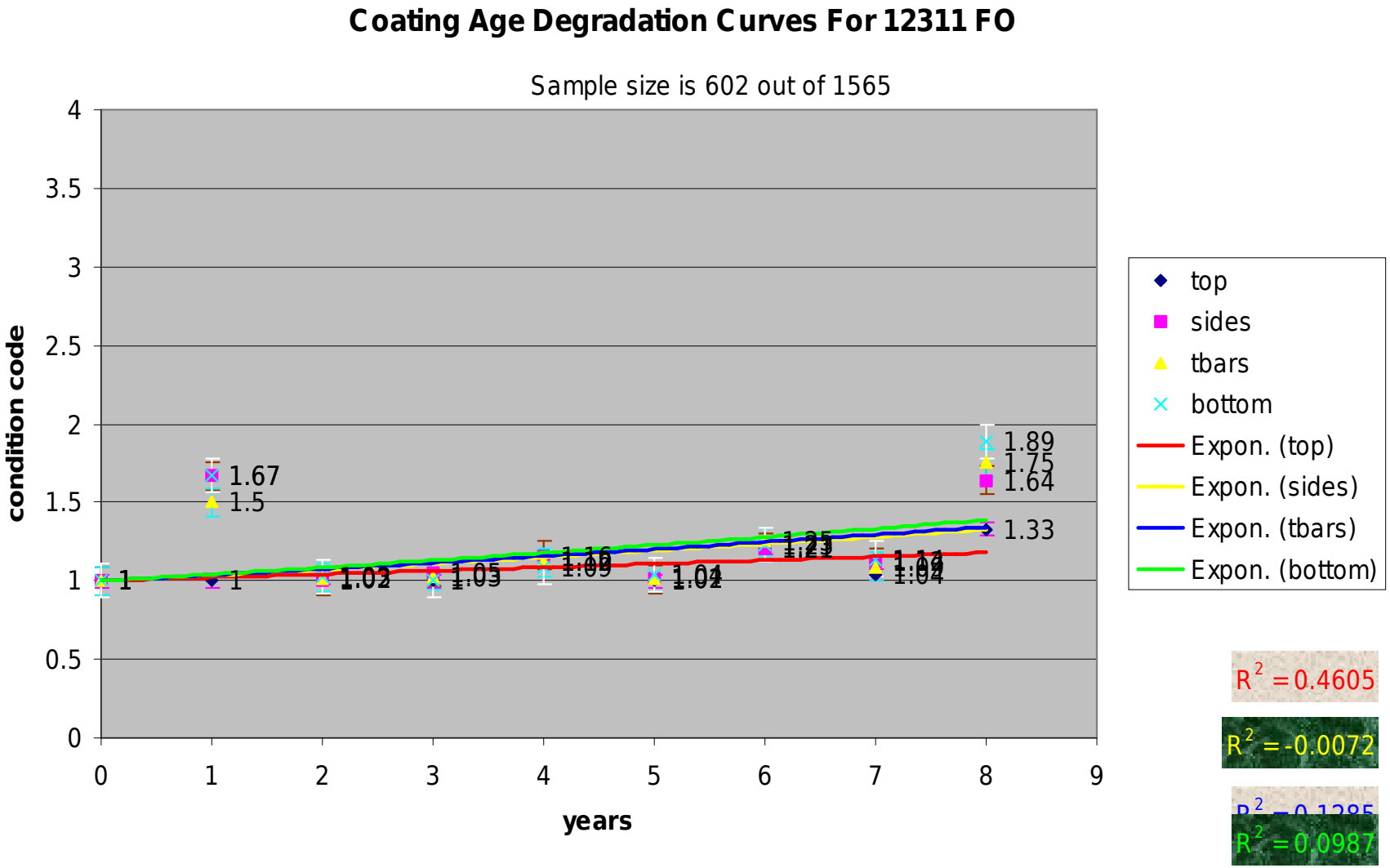
Saltwater Ballast Age Degradation Curve



JP-5 Age Degradation Curve



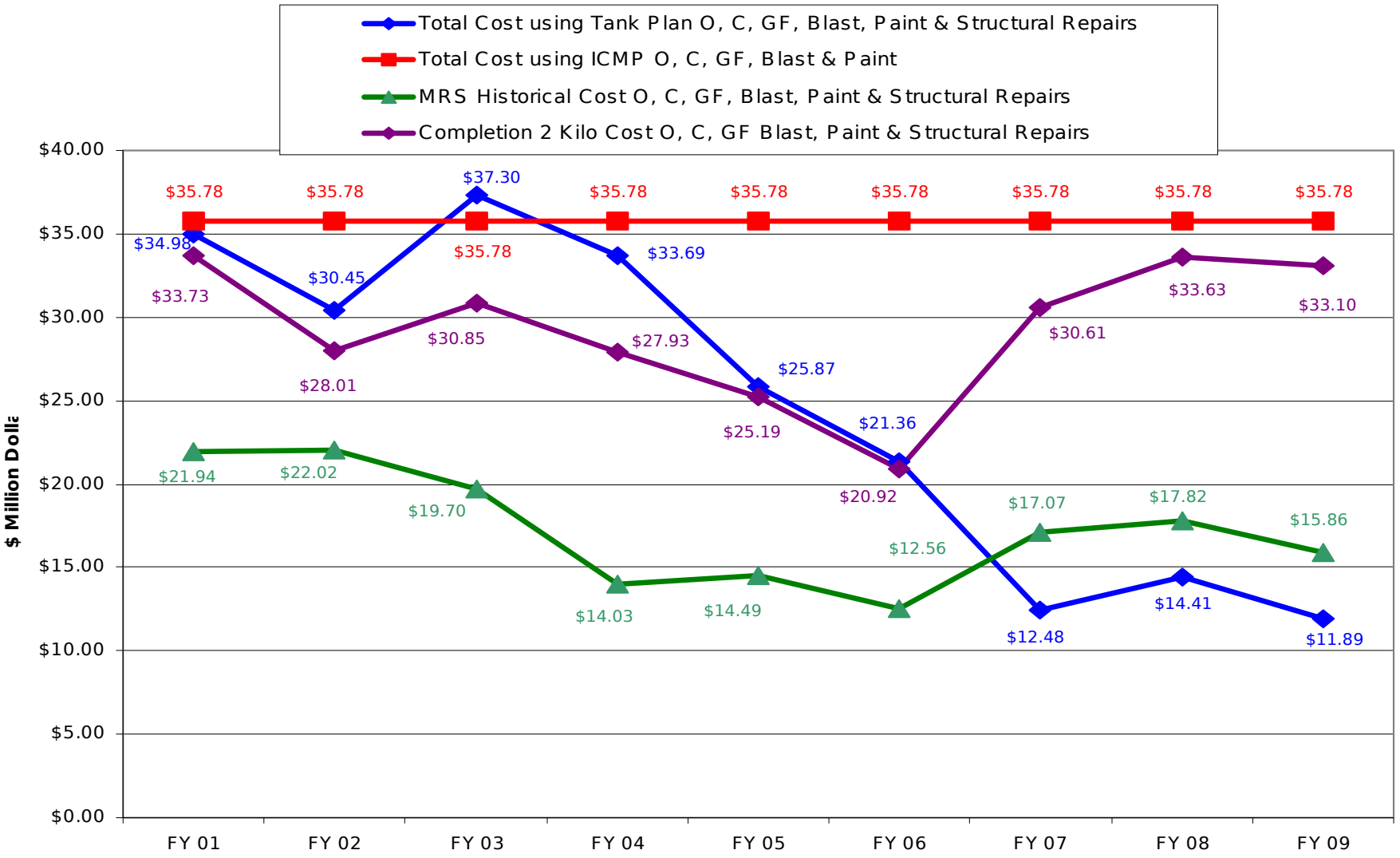
Fuel Oil Age Degradation Curve



Tank Plan Cost

- Tank Plan Cost to Open, Clean, Gas Free, Blast, Paint & Structural Repairs is based on analyzed SEMAT tank condition data, square footage of tank, coating type, and historical repair cost.
- Average Cost to Open , Clean and Gas free a tank are $9K.
- Blast and Paint costs are derived from tank square footage, service, and coating type.
- Structural repair cost are based on MRS historical cost or Completion 2-Kilos for LANT.

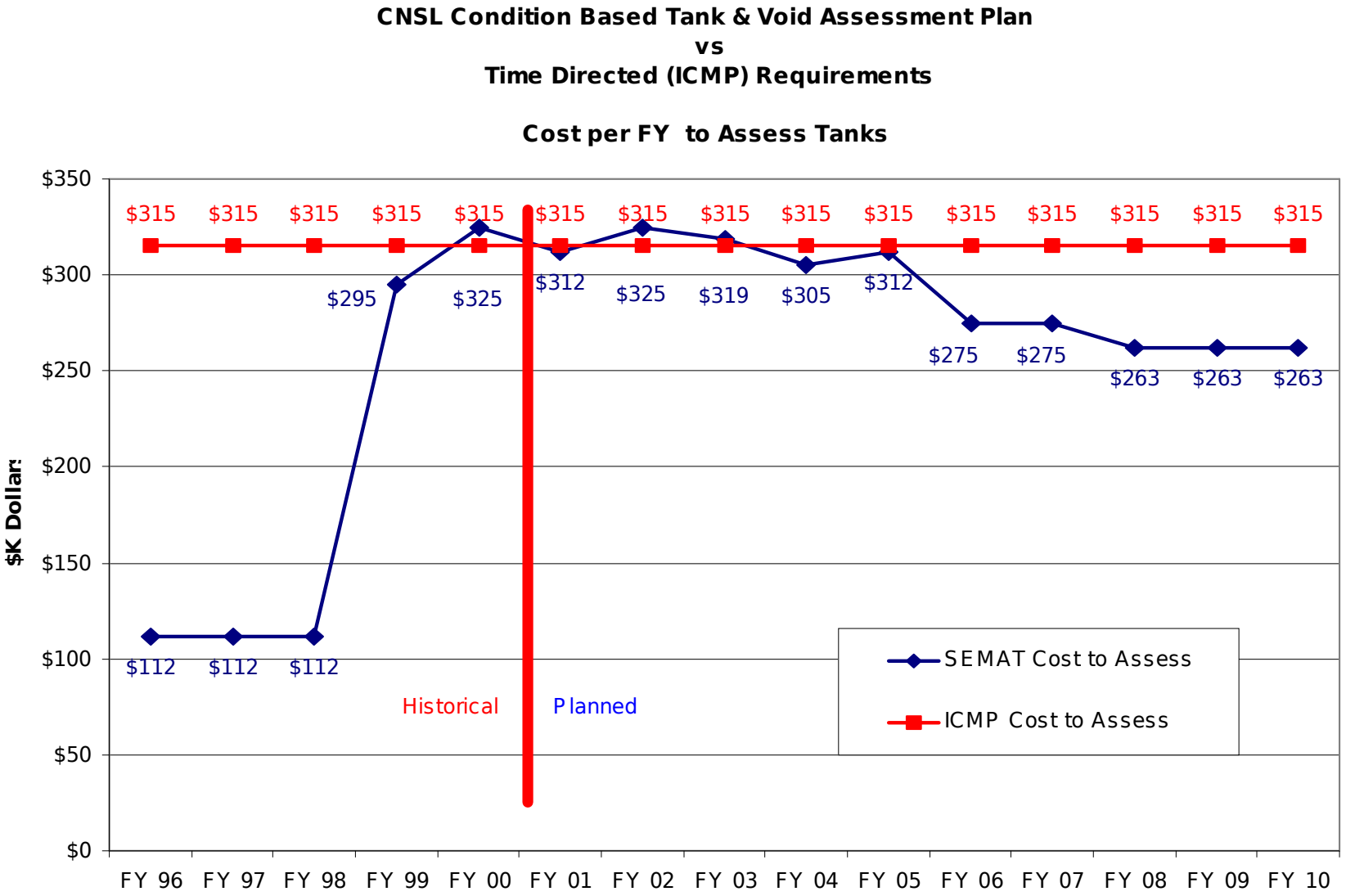
Tank Plan Cost



Tank Plan Summary

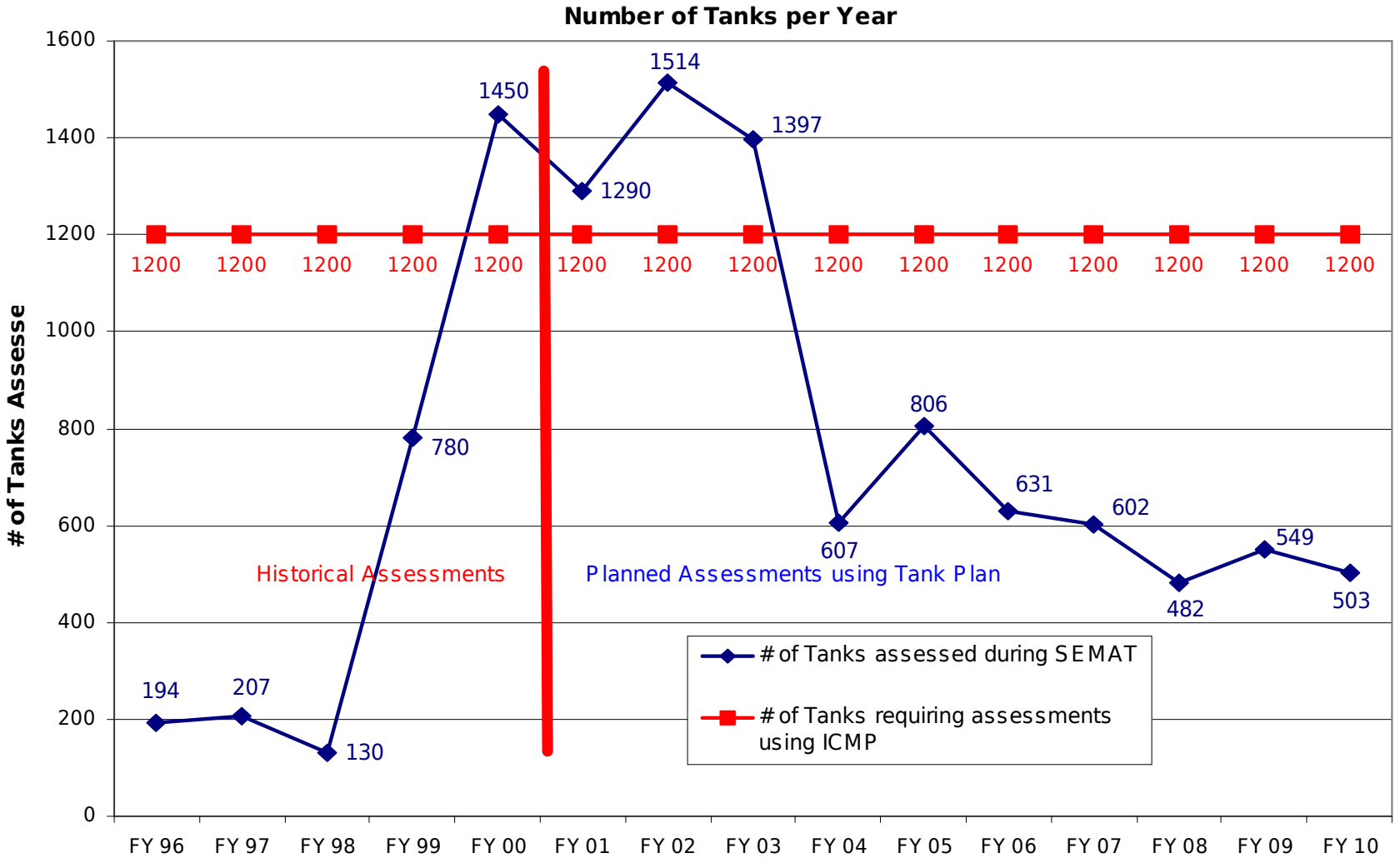
- Tank Condition data gathered by NACE qualified SEMAT assessors provides accurate, consistent and repeatable data
- Tank Condition data collected, analyzed and proactive maintenance action taken by CCBMM’s
- Condition based predictive scheduling leads to just in time painting and replacement of paint not steel
- Lowers life-cycle costs

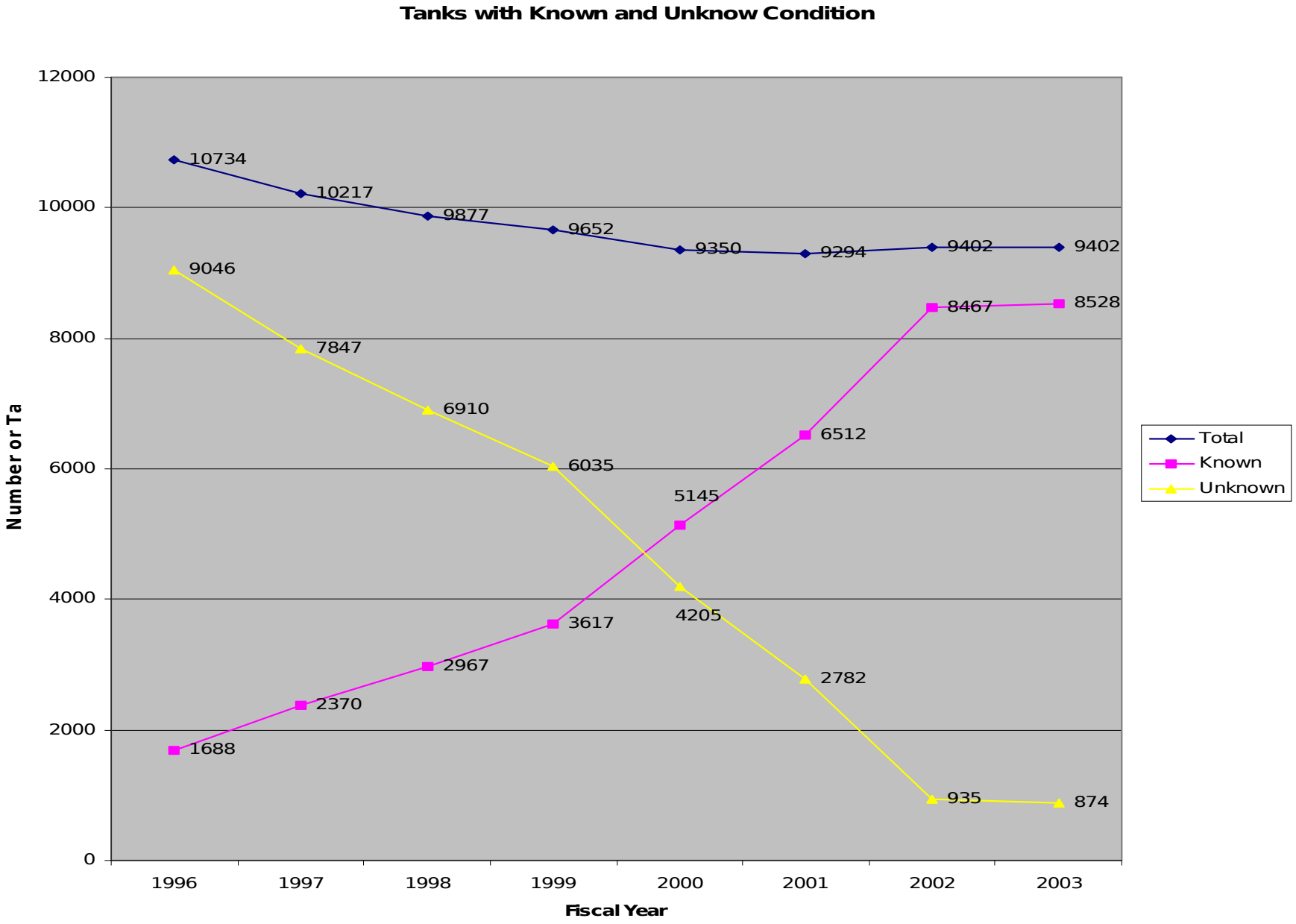
COMNAVSURFLANT SEMAT

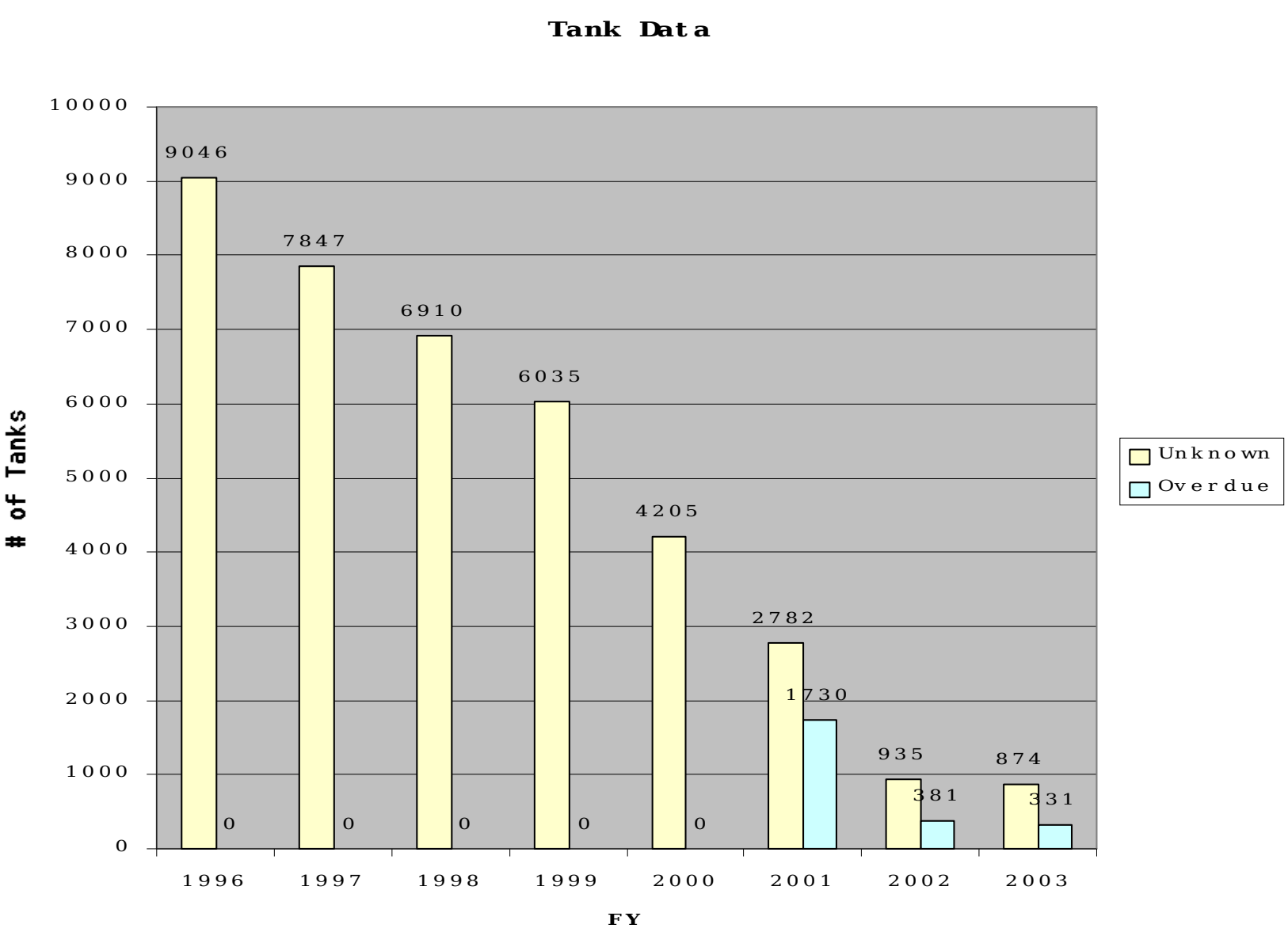

CNSL Condition Based Tank & Void Assessment Plan
vs
Time Directed (ICMP) Requirements
Cost per FY to Assess Tanks
$K Dollars
$350
$300
$250
$200
$150
$100
$50
$0
$315 $315 $315 $315 $315 $315 $315 $315 $315 $315 $315 $315 $315 $315 $315
$112 $112 $112 $295 $325 $312 $325 $319 $305 $312 $275 $275 $263 $263 $263
Historical
Planned
SEMAT Cost to Assess
ICMP Cost to Assess
FY 96 FY 97 FY 98 FY 99 FY 00 FY 01 FY 02 FY 03 FY 04 FY 05 FY 06 FY 07 FY 08 FY 09 FY 10

COMNAVSURFLANT SEMAT

CNSL Condition Based Tank & Void Assessment Plan
vs
Time Directed (ICMP) Requirements




Tanks with Known and Unknow Condition
Number or Ta
12000
10000
8000
6000
4000
2000
0
1996
1997
1998
1999
2000
2001
2002
2003
Fiscal Year
10734
10217
9877
9652
9350
9294
9402
9402
9046
7847
6910
6035
4205
2782
935
874
1688
2370
2967
3617
5145
6512
8467
8528
Total
Known
Unknown


Tank Data
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
# of Tanks
9046
0
7847
0
6910
0
6035
0
4205
0
2782
1730
935
381
874
331
1996
1997
1998
1999
2000
2001
2002
2003
FY
Unknown
Overdue